

---

## Original Article

# The evolution of privately owned public spaces in New York City

Stephan Schmidt<sup>a,\*</sup>, Jeremy Nemeth<sup>b</sup> and Erik Botsford<sup>c</sup>

<sup>a</sup>Department of City and Regional Planning, Cornell University, 313 West Sibley, Ithaca, New York, 14853.  
E-mail: sjs96@cornell.edu

<sup>b</sup>Department of Planning and Design, College of Architecture and Planning, University of Colorado  
Denver, CB 126, PO Box 173364, Denver, CO 80217-3364, USA.  
E-mail: jeremy.nemeth@colorado.edu

<sup>c</sup>Department of City Planning, 22 Reade Street, New York, NY 10007, USA.  
E-mail: erik@kapuku.com

\*Corresponding author.

**Abstract** New York City has actively engaged the private sector in providing publicly accessible spaces through the use of density bonuses and other mechanisms since 1961. In this article, we examine how the changing regulatory environment, promulgated by zoning reforms of the mid-1970s that advocated for increased amenity creation, has impacted the use, design and management of privately owned public space (POPS). We examine 123 POPS – 47 constructed before the mid-1970s reforms, 76 built after the reforms – using an index to measure levels of control or openness in publicly accessible space. We find that compared with pre-reform spaces, post-reform spaces encourage use through the introduction of design features and signage, but discourage use by decreasing accessibility of the space and increasing the amount of subjective rules and regulations. We also find that the reforms had no significant impact on use or sociability. Our findings can help guide planners and policymakers in New York City and elsewhere to understand how they can not only encourage better privately owned spaces, but perhaps even mandate them.

*URBAN DESIGN International* (2011) 16, 270–284. doi:10.1057/udi.2011.12; published online 14 September 2011

**Keywords:** privatization; public space; New York City; zoning

---

## Introduction

The provision of privately owned public space (POPS) has become an increasingly popular mechanism by which to supply publicly accessible space in light of strained municipal resources. While a number of cities – including recent proposals by smaller cities such as Austin, Calgary, Nashville and Tampa – have programs (Novak, 2009), New York City has actively engaged the private sector in providing publicly accessible spaces through the use of density bonuses and other mechanisms for nearly 50 years. The city's 1961 Zoning Resolution instituted an incentive zoning system whereby a developer received additional floor area in exchange for the construction and maintenance of

a publicly accessible space on their lot. Since then, over 530 POPS have been created in Manhattan, Brooklyn and Queens, encompassing over 85 acres of new publicly accessible space in the city.

While successfully increasing the total quantity of publicly accessible space, the quality of the resultant spaces has been called into question, as managers of POPS are often concerned more with profit and less with providing a public good (Loukaitou-Sideris and Banerjee, 1998; Kohn, 2004). Maintaining an appropriate corporate image requires an integrated set of legal, design and surveillance measures to signal appropriate behavior and use, and consequently the appropriate audience for such spaces. Owners and managers of POPS can affect the use of, access to, and behavior within public spaces by manipulating

legal, design and surveillance techniques to create more exclusive, less democratic spaces (Mitchell, 2003; Miller, 2007). As such, the physical characteristics sends strong signals to potential users about who belongs and who does not, thereby excluding segments of the population deemed 'out of place' (Sorkin, 1992; Loukaitou-Sideris and Banerjee, 1998; Németh, 2009). This critique, although useful, is limited in that it does not take into account the regulatory environment in which these decisions are being made. The role of the changing policy environment in affecting the use, design and management of POPS has generally been understudied, despite the fact that many existing regulations governing POPS – and especially those in New York City – are the result of the action of renowned urban reformers like Jane Jacobs and William Whyte. This issue is particularly relevant for planners and policy makers charged with developing regulations that encourage the private sector to produce more successful urban environments.

This study examines how the changing policy environment has affected the design quality, functionality and sociability of the resulting spaces. Using established methodological techniques, we conduct an extensive empirical analysis of 123 POPS in New York City. We limit our examination to the most common type of POPS in North America: the corporate-controlled plaza, park or atrium provided in exchange for a floor area ratio (FAR) bonus. We find that newer POPS – those constructed after the William Whyte-inspired zoning reforms of 1975 and 1977 – are increasingly complex, aesthetically pleasing and amenity-filled; however, they also tend to be more restrictive of access to the space and acceptable behavior within the space, than their pre-reform counterparts. Paradoxically, these newer spaces are both more *open* and more *closed*, more *inclusive* and more *exclusive*. On balance, we find that pre-reform POPS can be considered privatized in nature (Kayden, 2000), while post-reform POPS are more appropriately characterized as filtered spaces, seeking to attract only those users deemed desirable or appropriate (Németh, 2009). Interestingly, the reforms had no impact on overall levels of use or sociability of the public spaces created.

This article is organized in four parts. First, we provide a conceptual framework for understanding the evolution of POPS. We then examine the evolving regulatory environment that has guided the development, design and management of

these spaces. Third, we outline the methodology and sampling process. Finally, we discuss some conclusions and implications for both designers and managers of publicly accessible space.

## Privately Owned Public Spaces

This study lends empirical support to previous work on POPS in New York City (Kayden, 2000, 2005; Kohn, 2004; Németh, 2004; Schmidt, 2004; Miller, 2007; Smithsimon, 2008a; Németh, 2009; Németh and Schmidt, 2011). A significant portion of this work has focused on the role of the developer – not city planners or policy-makers – in designing, implementing, and managing public spaces. We argue that it is important to understand how the regulatory environment impacts the resultant quality of the built environment, broadly construed; that is, the actual or potential use of the space, the physical or built space, and the manner in which the space is managed, all of which affect the quality of the space (see Whyte, 1980; Cooper Marcus and Francis, 1997). To our knowledge, no study has evaluated the impact of comprehensive incentive zoning regulations on the resulting built environment, especially in the context of POPS governed by complex administrative arrangements.

Studies of public space often focus on design and regulatory characteristics because the quality of public space is an elusive concept: what exactly is a 'good' public space? Some scholars list functions or uses that spaces should allow (Marcuse, 2005), others argue that public space should be universally inclusive and encourage interaction among diverse parties (Kohn, 2004), while still others maintain that good spaces possess abstract characteristics such as authenticity (Zukin, 2009), permeability (Ellin, 2006) or flexibility (Fernando, 2006). The number of daily users has also been identified as an indicator of a successful space: the higher the users the better the space (Carmona *et al*, 2003). But this assumption does not account for privatized, consumption-based spaces with heavy security serving specific demographics, nor does it take into account discovered spaces that provide opportunities for quiet respite or contemplation (Loukaitou-Sideris and Banerjee, 1998). In fact, the least populated urban spaces are often the most loved, as they can provide a welcome respite from the city. Additional criteria for

gauging the effectiveness of public space include their impact on adjacent property values, attracting retail development, reconnecting citizens with the natural environment, and integrating diverse populations and disparate neighborhoods (Németh and Schmidt, 2011).

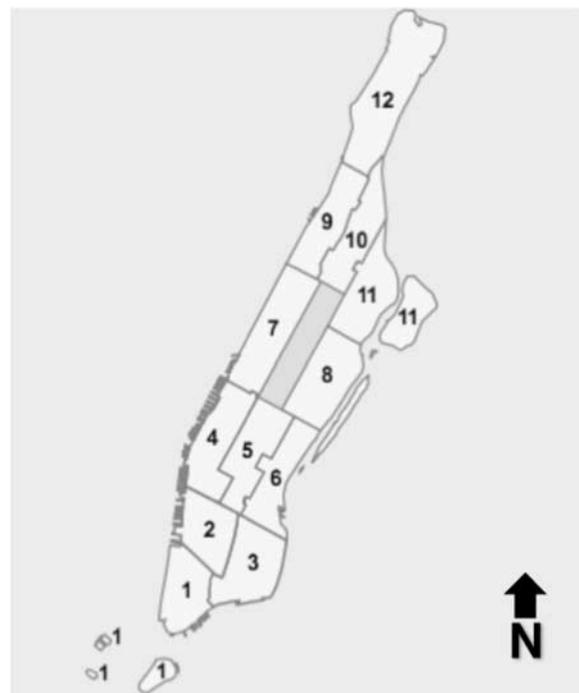
Clearly, no single space should be expected to possess all these characteristics. Moreover, advancing any or all of these normative claims is problematic as it fails to recognize the subjective positions from which the actual users interpret and experience space (Németh and Schmidt, 2011). Therefore, any nuanced understanding of actual or potential use would require in-depth and long-term user perception interviews, a difficult and time-consuming process fraught with its own methodological challenges to validity and reliability.

How, then, might we efficiently and succinctly measure the quality of public space? In this analysis, we rely on previous studies that have attempted to empirically quantify the design, management and use of public space. Németh and Schmidt (2007) construct an index to operationalize the management of public space. The index groups spatial management techniques into those that encourage freedom of access, use and behavior, and those which actively discourage freedom of access, use or behavior. The index further divides these techniques into four major approaches: the laws and rules governing the space, surveillance and policing present in the space, the use of design and image-building techniques, and the use of access restrictions and territorial separation to control space. Kayden (2000) construct an index to discern the sociability (defined as use or potential use of a space), in which multiple assessors examine, among other characteristics, how many people are present in the space, the activities they are engaged in, and whether (and where) they congregate. Assessors also briefly appraise design features and operational qualities, such as the condition of amenities and grounds. Each space is then given a score ranging from the least sociable ('marginal') to the most sociable ('destination'). In light of the difficulties in quantifying use discussed above, the sociability measure can serve as a suitable measure.

Using these empirically grounded methodologies, we show that POPS have become increasingly complex and diverse, aesthetically pleasing, and more amenity-filled, but simultaneously more restrictive in terms of access and regulations

on acceptable behavior. As opposed to a bleak, uninviting patch of concrete – the result of the original 1961 resolution – many more recent POPS now actively attempt to encourage a consumption-oriented audience. Consequently, and paradoxically, we find that newer spaces tend to include more features that encourage use and more features that control use. We conclude that incentive zoning regulations inadvertently encourages developers to 'filter' the uses and users of public spaces through the manipulation of different design and management techniques. In addition, we find that the reforms had no impact on overall levels of use (as measured using sociability scores).

No city even approaches the number of POPS as New York City, and no neighborhoods have more POPS than Midtown Manhattan (Kayden, 2000). Thus, we limited our study to this neighborhood and the more residential Upper East and West sides, while recognizing that focusing on the POPS experience in any one city may make our results less generalizable. In particular, we limited the study area to Community Board districts 4 through 8 (see Figure 1). However, New York City's incentive zoning program serves as a model for similar incentive



**Figure 1:** Map of Manhattan Borough Community Board (CB) districts. The study area consisted of CB districts 4–8. *Source:* NYC Department of Planning.

zoning programs cities like Denver, San Francisco and Seattle. New York's resolution is not only the oldest, but some consider it the 'most marked by mistakes' (Smithsimon, 2008b, n.p.); as such, we can learn a lot from its myriad successes and failures. Our findings can help guide planners and policymakers to understand how they can not only *encourage* better POPS, but perhaps even *mandate* better POPS. This issue is particularly topical: as we write, New York City's Department of Planning is examining new regulations governing these spaces.

### Changing Regulatory Environment for POPS

While POPS have existed in New York City for quite some time – Rockefeller Center and Paley Park are notable examples – the concept of granting FAR bonuses in exchange for the provision of space was first introduced as official land use policy with the adoption of the comprehensive zoning overhaul of 1961. This resolution introduced the concept of the 'bonus open space' to New York City zoning in the form of privately owned but publicly accessible spaces as a way to encourage the provision of public open space on private properties. Bonus open spaces were so termed because property owners could construct floor area above the normally permitted maximum if they set aside public open space on their private property. In the 50 years since the first POPS regulations were adopted, design and operational standards have been revised numerous times. Each round of revisions has seen stricter design and operational requirements, resulting in a steady improvement in the quality of POPS. At the same time, POPS regulations have at times permitted or even encouraged the privatization of the public space and restrictions on the users of these spaces, either through specific provisions, lax enforcement of POPS zoning, or a failure to address certain design or operational issues.

#### 1961 zoning

While the 1961 POPS regulations were revolutionary, the reality was that the provisions were extraordinarily limited in what they required of developers and what amenities were permitted in these spaces. Plazas built pursuant to the 1961

regulations were considered to be as-of-right, meaning developers could claim the FAR bonus and construct the bonus plaza without any meaningful design review or approval by city agencies. In addition, many of the most basic design amenities – trees, lighting, seating – were prohibited within the plaza area while others of questionable value to users – arbors, canopies, flagpoles, railings – were permitted but not required. Compounding the lack of amenities provided within the plazas was a lack of regulations intended to protect public use and a sense of safety. For example, there were minimal requirements governing plaza location and configuration: plazas were permitted to be sunken up to 12 feet below or elevated up to five feet above street level, effectively separating the plaza from the public realm and creating an isolated, abandoned space. POPS could also be utilized for loading, parking, vehicular circulation, trash removal and building maintenance activities. Moreover, there were minimal regulations affecting the design of gates and fences used to secure the plaza and it was not uncommon for spaces to be secured nightly with locked gates and fences. Even the identification of POPS as publicly accessible spaces was not required – and could arguably have been seen as prohibited, given that signage was not considered a permitted obstruction within the plaza area. One hundred sixty-six plazas were constructed pursuant to the 1961 regulations before the amendments were introduced in 1975. While the regulations could be seen as a success in generating sheer quantity of POPS, the effect of the lack of design regulation and lax enforcement was often lifeless and



**Figure 2:** 1114 6th Avenue (1971): Example of pre-reform space (photo by authors).

desolate plazas that were little more than forlorn expanses of paving hidden away from view (see Figure 2).

Subsequent changes to the zoning resolution introduced additional types of POPS, both open-air and enclosed; these amendments were intended to provide a variety of public space on private properties within high-density commercial and residential districts. These additional spaces included open-air concourses, sidewalk widenings, sunken and elevated plazas, and several types of through-block pedestrian passages. But the most significant changes to the regulations governing POPS came in the 1970s with the replacement of as-of-right plazas with the *urban plaza* and *residential plaza* categories.

### Reforms of 1975–1977

The first comprehensive overhaul of the zoning regulations related to POPS was adopted in 1975. The zoning resolution (as it pertained to POPS) had come under scrutiny since the early 1970s, when urbanist William H. Whyte formally complained to the Planning Department about the quality of spaces being produced by developers as a result of the original resolution. In turn, Whyte and his *Street Life Project* advised the Planning Department on what constituted a good public space. The team used time-lapse photography and extensive participant observations to determine what worked and why, and published their findings in a seminal book and video, *The Social Life of Small Urban Spaces* (1980). As promised, the Planning Department amended the zoning resolution in the mid-1970s to reflect these suggestions, and encouraged developers to provide better-designed spaces with more amenities. Notably, this amendment explicitly stated that developers would only receive the higher FAR bonuses if they provided more usable, higher-quality POPS.

The ability to construct new as-of-right plazas in most commercial areas was eliminated and in their place the Department of City Planning introduced the *urban plaza*. Two years later another revision to the plaza regulations further reduced the applicability of the 1961 plaza through the introduction of the *residential plaza*. Thirty-nine urban plazas and 59 residential plazas were constructed before the next significant round of reform in 2007.

The urban and residential plaza regulations sought to remedy the deficiencies of the 1961 plazas and create spaces that were attractive and lively through enhanced design and oversight. For the first time, all POPS were required to have a minimum set of amenities including seating, lighting, plantings and signage identifying the plaza as public space. Size, orientation, elevation and configuration of plazas were also strictly prescribed to ensure they would maximize sunlight, visibility and accessibility. Unlike the original as-of-right plazas, urban plazas and, later, residential plazas were subject to review and approval by the Department of City Planning, thereby ensuring at least an initial level of compliance with POPS provisions. Indeed, the regulatory reforms of the 1970s generally resulted in a higher quality POPS. See Figure 3 for a typical post-reform space.

However, a number of issues combined to affect the true usability and desirability of many of these spaces. While the Department of City Planning was responsible for the drafting and promulgation of zoning related to POPS, *enforcement* fell to various other agencies for inspection and imposition of penalties for noncompliance. Provisions requiring the posting of performance bonds to pay for replacement of seating, plantings and other plaza amenities in the event of a property owner's failure to maintain the plaza were often loosely enforced and rarely, if ever, utilized. The lack of a regular inspection program or periodic re-certification of compliance meant that property owners had free rein to modify design features, leading to the widespread use of spikes and railings to prevent seating and the occasional



Figure 3: 745 7th Avenue (2000): Example of post-reform space (photo by authors).



**Figure 4:** Example of pre-reform space with spikes on ledges to deter loiterers (photo by authors).

outright closure of a plaza to the public via the erection of gates and fences (see Figure 4).

The advent of urban and residential plazas also heralded the first regulations permitting increased privatization of POPS. These provisions ranged from the relatively benign – accessory signage for businesses fronting the plaza – to full-scale occupation of POPS with a commercial enterprise, such as ice skating rinks and amphitheaters that charge admission. While no such skating rinks or amphitheaters were ever constructed, more popular were the provisions permitting the placement of open-air cafés and kiosks within POPS. To mitigate the risk of privatization, the café and kiosk regulations required separate approval from the Planning Department that was only valid for three years. More problematic was the lack of design and operational guidelines for cafés and kiosks. For example, regulations were vague in specifying how cafés could be separated from the larger plaza area, whether the general public would be free to use café tables and chairs if not purchasing food or drink, and how these areas would function during the winter months. As a result, many cafés walled themselves off from public areas with planters, fabric barriers or even full enclosures, and began to deny entry to non-consuming patrons.

Of equal importance to deficiencies in the regulations and their enforcement were the numerous areas in which POPS zoning was silent. For example, the provisions provided no guidance as to whether, and in what manner, a plaza could be closed or occupied by private events, or whether security personnel or cameras could

be located within a POPS. There were also no guidelines for signage posting rules and regulations, which resulted in strict lists of prohibitions posted in these spaces; some of these occasionally bordered on the ridiculous, prohibiting activities such as eating, drinking or drug use. As mentioned earlier, the regulations also implicitly permitted the placement of spikes or bars on planter ledges and low walls, methods of deterring seating that found their way into many plazas constructed after the 1970s reforms.

Planners introduced further revisions to the POPS regulations following the introduction of urban and residential plazas, the most significant of which was the adoption of nighttime closing provisions. Originally, all POPS were required to be open at all hours to the public and the residential and urban plaza standards specified minimum levels of lighting throughout the night. Beyond the actual closing of the plaza to public use, the most significant impact of the nighttime closing provisions was the design and construction of barriers around plazas. The regulations failed to describe the appropriate dimensions of such barriers and did not address what was to be done with them during daylight hours. Consequently, many POPS ended up ringed with massive fortifications at night that remained in place during the day, perhaps with one section removed for public access, or were folded into equally massive stanchions located along the sidewalk line. Still, no research has specifically examined the impact of the original mid-1970s reforms. Are spaces built before these reforms more or less controlled than those built after? What has been the real effect of these regulatory changes?

## Methods

We examine 123 POPS (47 constructed before the mid-1970s reforms, 76 built after the reforms) to determine how and in what manner policy changes affected the function and management of these spaces. To do so, we utilize an index that operationalizes levels of control or openness in publicly accessible space (Németh and Schmidt, 2007), as discussed earlier. The index groups spatial management techniques into 10 that encourage freedom of access, use and behavior, and 10 that actively discourage freedom of access, use or behavior (see Table 1 for a list, but see Appendices A and B for a full description). Note that each approach (Laws/Rules, Design/

**Table 1:** Index of control/management measures (Németh and Schmidt, 2007)

	<i>Approach</i>
<i>Features encouraging use</i>	
Sign announcing 'public space'	Laws/Rules
At a commercial building	Surveillance/Policing
Restroom available	Design/Image
Diversity of seating types	Design/Image
Various microclimates	Design/Image
Lighting to encourage nighttime use	Design/Image
Small-scale food consumption	Design/Image
Art/cultural/visual enhancement	Design/Image
Entrance accessibility	Access/Territoriality
Orientation accessibility	Access/Territoriality
<i>Features controlling use</i>	
Visible sets of rules posted	Laws/Rules
Subjective/judgment rules posted	Laws/Rules
In business improvement district (BID)	Surveillance/Policing
Security cameras	Surveillance/Policing
Security personnel	Surveillance/Policing
Secondary security personnel	Surveillance/Policing
Design to control behavior/imply appropriate use	Design/Image
Presence of sponsor/advertisement	Design/Image
Areas of restricted or conditional use	Access/Territoriality
Constrained hours of operation	Access/Territoriality

Image, Accessibility/Territoriality, Surveillance/Policing) has variables that both encourage and discourage use. The index quantifies directly observable indicators in order to be as objective as possible. As such, it employs a scoring rubric (0, 1 or 2) based on the presence and intensity of each separate variable. The total index score for any given space is simply the total for features discouraging use subtracted from the total for features encouraging use. The highest overall score is a 20 (most encouraging/least controlled), the lowest is a -20 (least encouraging/most controlled), while 0 implies a perfectly neutral score.

In this research, we ask four questions. First, what effect did the reforms have on the physical characteristics and management of POPS? Are POPS designed after the reforms more open or more controlling in terms of access and behavior? Similarly, if post or pre-reform spaces are more restrictive, is it because such spaces actively discourage or exclude users, or do they simply fail to encourage use?

Second, which approaches are used to achieve these goals? For example, if spaces are becoming more restrictive or discouraging, is it because of an increase in the use of surveillance, or is it due to increasingly stringent rules and regulations?

Third, how have the reforms affected the space's sociability? We scored each space using

a methodology to discern the sociability (defined as use or potential use of a space) developed by Kayden (2000), in which each space is then given a score ranging from the least sociable ('marginal') to the most sociable ('destination'). Kayden (2000) had applied a score to 85 per cent of the POPS in question (those constructed through 2000). Our own assessments of the 14 post-2000 spaces took place over one week in April 2011. Two assessors with knowledge of and training in the methodology visited each space twice on separate weekdays, once in the morning and once in the evening. Weather and other confounding conditions were not as germane to the analysis since the methodology examines a space's *potential* use. If scores differed between assessors, the higher score applied to better reflect the potential use.

Fourth, what is the nature of the relationship, if any, between the level of FAR bonus received by a developer and security, openness or 'sociability' (Kayden, 2000) of the space provided? For example, are owners and managers of POPS with higher FAR bonuses more likely to encourage use? If so, what approaches (design, access) do they utilize or implement to do so?

To compare all measures across pre- and post-reform spaces – more precisely, to determine whether or not statistically significant

differences existed among the results – we used the Mann-Whitney *U* test, also called the Wilcoxon–Mann–Whitney test, a non-parametric test for assessing whether two independent samples of ordinal observations come from the same distribution.

## Results

We present the results in separate layers of analysis. In the first analysis, we compare the total index score for POPS constructed before and after the reforms. In addition, we compared pre- and post-reform scores for those features that encourage use and those that discourage use. We found no statistically significant difference between the scores for features discouraging use, encouraging use or for the total index score before

and after the reforms. This implies that there is no change in the overall level of openness of POPS constructed before and after the reforms. Although the difference was insignificant, it is worth noting that the mean rank score for features encouraging and discouraging use increased in the post-reform period. According to the index scale, a higher score indicates a greater use of features that encourage use, such as benches or lighting or discouraging use, such as the presence of security cameras. This implies that post-reform spaces are also more likely than pre-reform spaces to both actively encourage and discourage use (Table 2).

Further disaggregating the analysis, we find a statistically significant difference between pre- and post-reform spaces for the various approaches listed in Table 3. We find that spaces constructed before the reforms are significantly more accessible than post-reform spaces (the

**Table 2:** Mean index score for pre- and post-reform POPS: Encourage versus discourage

<i>Dimension</i>	<i>Mean rank</i>			
	<i>Pre-reform spaces</i>	<i>Post-reform spaces</i>	<i>Mann-Whitney U</i>	<i>P-value (2 tail)</i>
Total score	59.63	63.47	1674.5	0.562
Features encouraging use	55.95	65.74	1501.5	0.138
Features discouraging use	59.02	63.84	1646	0.462

*Abbreviation:* POPS, publicly owner public space.

**Table 3:** Mean index score for pre- and post-reform POPS: Dimensions

<i>Dimension</i>	<i>Mean rank</i>			
	<i>Pre-reform spaces</i>	<i>Post-reform spaces</i>	<i>Mann-Whitney U</i>	<i>P-value (2 tail)</i>
Surveillance/Policing Encouraging use**	75.52	53.64	1150	0.000
Surveillance/Policing Discouraging use	60.82	62.73	1730.5	0.772
Design/Image Encouraging use**	53.80	67.07	1400	0.043
Design/Image Discouraging use	66.30	59.34	1584	0.278
Laws/Rules Encouraging use**	45.38	72.28	1005	0.000
Laws/Rules Discouraging use**	53.52	67.24	1387.5	0.006
Accessibility Encouraging use*	68.29	58.11	1490.5	0.099
Accessibility Discouraging use*	57.11	65.03	1556	0.010
Sociability	57.86	60.58	1591	0.666

\*Results significant at the 0.10 level.

\*\*Results significant at the 0.05 level.

*Abbreviation:* POPS, publicly owner public space.



**Figure 5:** 407 Park Avenue South (1984): Example of post-reform space with decreased accessibility (photo by authors).



**Figure 6:** 1285 6th Avenue (1984): Example of post-reform space with increased use of design elements (photo by authors).

mean rank score is higher). This suggests that pre-reform spaces are better oriented toward the public sidewalk, are less likely to use gates, doors or other threshold controls, and are less likely to have nighttime closures. The mean rank for accessibility features discouraging use (for example, constrained hours of operation or the inclusion of areas of restricted or conditional use) increase for post-reform spaces (see Figure 5). These findings are expected given that the reforms to allow for closures during parts of the day (see discussion above).

On the other hand, post-reform spaces score significantly higher for design or image-related features encouraging use – bathrooms, lighting, food carts/cafés, art, seating and other design amenities, than pre-reform spaces (see Figure 6). Post-reform spaces also score significantly higher for including laws and rules encouraging use. For example, they are more likely to have signs introducing the space as publicly accessible, which is not surprising, as all spaces built since the reforms are now required to have such a sign (Kayden, 2000). However, post-reform spaces are also more likely to post rules and regulations that control how a space is used, and by whom. These rules include not only objective, universal rules (for example, no smoking) but also those that are subjectively enforced (for example, those rules barring any inappropriate behavior or attire). Figure 7 presents such a case.

We also examined the relationship between sociability and the mid-1970s reforms: we find no significant difference between pre- and post-reform spaces on this measure. This is certainly surprising, so as a further test we examined the



**Figure 7:** 590 Madison Avenue (1982): Example of post-reform space with both objective and subjective rules posted (photo by authors).

correlations between a space's sociability score and the score for each of the management approaches discussed earlier and also found no significant relationships. All the subsequent *r* values were low (less than 0.2), but it is interesting to note that the highest positive correlations were between the sociability score and features that encourage use ( $r = 0.17$ ), specifically design features ( $r = .17$ ) and laws ( $r = .14$ ) that encourage use. Although this indicates some relationship between physical space and sociability, it does suggest that additional factors affect how a space is used, not just the built or regulatory environment or the management of the space. Another interpretation is that the impact of the reforms, both in terms of discouraging and encouraging use, are in effect canceling each other out, so that

in the long term there has been no major impact on the overall use of spaces.

We conclude that post-reform spaces encourage more use through the introduction of design features (such as the provision of seating and lighting) and through increased signage (that is, the inclusion of a sign indicating public space), but discourage use by decreasing accessibility and increasing the amount of subjective rules and laws. Interestingly, the increased use of security personnel or cameras was not significant; we expected to find the opposite. This could be because older spaces have been retrofitted with cameras and personnel. This analysis comports with our earlier discussion, namely there have been an increase in features and approaches that both encourage and discourage use due to the reforms.

Finally, we examined the correlation between the FAR bonus awarded each space<sup>1</sup> and that space's 'openness' score on each approach. Recall that the Department of City Planning grants extra floor area to developers, but gains a publicly accessible space, albeit one that is privately owned. The Department of City Planning can reward developers who provide 'better' spaces – those with more amenities and higher quality environments – with higher FAR bonuses. The assumption is that spaces with higher FAR bonuses should be more encouraging of use than those with lower FAR bonuses. Table 4 presents the Pearson's *R* correlation values. We point out a few notable findings, all of which were expected given the literature on POPS.

First, while all the correlations are generally rather low, most are positively correlated, meaning that as FAR bonuses increase, so do the

presence of these measures. The zoning resolution is successful insofar as it is correlated with features that encourage use ( $r = .202$ ); that is, it is clearly having the desired effect of creating more user-friendly spaces. In addition, we examined the relationship between FAR and the sociability score. The moderately strong correlation between FAR and sociability ( $r = 0.283$ ) demonstrate that the city has, on balance, prioritized spaces that are more sociable and well-used.

However, FAR bonuses are also correlated with features that discourage use, although the relationship is weaker ( $r = .067$ ). Moreover, the relationship between FAR and approaches that encourage use (for example, signage, benches, access) are generally stronger than the relationship between FAR and approaches that discourage use (for example, security guards, spikes on ledges). Even in the latter case, however, the relationship is still positive. Thus the policy appears to reward developers with higher FARs if they introduce extensive amenities, but these spaces also contain features that discourage certain uses and users. In addition, it is worth noting that the relationship between FAR and age is positive and moderately strong ( $r = 0.471$ ) indicating that newer, post-reform spaces (that is, those that are more amenity filled) receive higher FAR bonuses in general. This is not that surprising, as the resolution *requires* all post-reform spaces to have certain amenities.

## Conclusion

The analysis reveals no statistically significant difference in the degree and amount of spatial control in POPS over time, nor a major change in the sociability or use of POPS, a somewhat surprising result. We do find that post-reform POPS tend to employ many features which both encourage use, a finding consistent with earlier research (Németh, 2009). In this regard, the increasing reliance on the private sector to provide publicly accessible spaces encourages the creation of increasingly busy, highly programmed 'festival' spaces (Sorkin, 1992) in which designers employ an array of techniques, tools and activities to manipulate and program use and behavior. Furthermore, once the index score is disaggregated, the results are quite revealing. Post-reform POPS tend to discourage use through increased regulatory and access restrictions (such as constrained hours of operation or the inclusion

**Table 4:** Correlations between FAR bonus and presence of management features

<i>Approach</i>	<i>Pearson's r-value</i>
Features encouraging use	0.202
Features discouraging use	0.067
Surveillance/policing encouraging use	-0.063
Surveillance/policing discouraging use	0.017
Design/image encouraging use	0.182
Design/image discouraging use	0.117
Laws/rules encouraging use	0.179
Laws/rules discouraging use	0.098
Access/territoriality encouraging use	0.150
Access/territoriality discouraging use	-0.165
Age	0.471
Sociability (from Kayden, 2000)	0.253

*Abbreviation:* FAR, floor area ratio.



**Figure 8:** 1325 6th Avenue (1989): Example of post-reform space with both increased amenities and increased electronic surveillance (photo by authors).

of areas of restricted or conditional use), but also encourage use through the introduction of design features (such as the provision of seating and lighting) and signage (see Figure 8). These findings are consistent with Smithsion's work (2008b), which suggests that 'developers have stopped building spaces that exclude through their physical design' alone (n.p.).

The amendments of the mid-1970s brought about a fundamental change in the manner in which POPS were spatially organized. Specifically, some of the deficiencies of the previous regulations were corrected, as seating, planting, trees and signage were now required, ultimately making these spaces more attractive. The interaction between the changing policy environment and developer priorities appears to have led to an increase in an overreliance on programmed elements and other legal and design interventions to signal appropriate behavior and use of the space. This shift invites criticism over exactly how 'public' these public spaces really are.

While these reforms laudably attempted to improve the inclusiveness of the often barren, as-of-right spaces being produced by developers, they actually served to create a different type of 'filtered' space open only to those deemed desirable or appropriate. These spaces are physically open to the public but remain exclusive: 'there are no walls, but the imperial personnel and the peasants are still separated' (Smithsion, 2008b, n.p.). As our empirical research has confirmed, this filtering of uses and users has been encouraged, or even exacerbated, by the 1970s reforms. The reforms encouraged developers to

include public amenities, these amenities increased use, and these now popular spaces needed to be stringently policed and controlled lest the 'wrong kind of user' occupy the space.<sup>2</sup>

This filtering of space implies that certain management techniques sort users to ensure an appropriate audience. These spaces encourage public use by introducing design amenities like fountains, trees and restrooms and implementing features to promote retail consumption. As many higher-end chain retailers interpret the public space as an extension of the private, desiring a clean and familiar environment to attract customers, managers of filtered spaces encourage consumption by limiting access to non-consumers (for example, homeless persons, young people) while attracting potential customers through the use of amenities and other visual stimuli (Boyer, 1992; Crawford, 1992; Schmidt, 2004). These strategies work well, but as mentioned above, managers are required to post sets of rules governing desirable use, many of which are subjective in nature, and judgments as to who belongs and who does not are made by the property manager or security guard on duty (Németh, 2009). In some cases, these managers have been known to rent out these ostensibly public squares for corporate or commercial events lasting several days or weeks in a row, such as the case in the annual Bryant Park Fashion Show in New York City.

Interestingly, many *publicly owned* parks and plazas have been subject to a similar criticism as POPS have received, proving that the line separating POPS and publicly owned spaces is increasingly blurred (Banerjee, 2001). Indeed, a recent study also drawing on empirical evidence from New York City showed that both types of spaces use similar measures to attract and retain users (Németh and Schmidt, 2011). But still POPS serve as a harbinger of things to come, as they are designed and managed by private developers speculating on what form the city will take (and who will be included in its use) (Smithsion, 2008b). If current economic woes continue to threaten already cash-strapped city coffers, then planning departments will undoubtedly continue to leverage public goods from the private sector.

## Postscript

The results of this study are particularly timely, as recent action by the Department of City Planning

has addressed the increased use of access restrictions in particular. In 2007, the Department of City Planning undertook another significant round of reform on the design guidelines governing the city's POPS. The revisions removed the ability to construct new residential or urban plazas and consolidated all plaza regulations into a new plaza type called the *public plaza*. The new regulations address many of the deficiencies found in earlier zoning and the public plaza provisions affect nearly every part of the incentive zoning resolution. Most relevant for this study, the new regulations are significantly stricter in their treatment of design elements that impact perceptions of safety, security and privatization of the public space. For example, open air cafés may no longer be separated from the surrounding plaza and must have their approved boundaries clearly marked on the ground. Similarly, barriers used to close a plaza at night are now limited to five feet in height and must be completely removed from the plaza during hours of public access. We are encouraged by the active steps taken by the Department of City Planning to modify the regulations in the face of mounting evidence that a new round of reforms might be necessary.

## Acknowledgement

Partial funding for this research was provided by the University of Colorado's Center for International Business Education and Research (CIBER).

## Notes

- 1 Since some buildings have more than one POPS at them, and since each POPS is 'bonused' at a different rate, the FAR number we use in this calculation represents FAR *per square foot* at each building.
- 2 More research is needed to better understand the link between user preference and levels of control. In particular, future work should attempt to understand whether users actually *prefer* more controlled spaces, something which has been suggested elsewhere (Day, 1999).

## References

- Banerjee, T. (2001) The future of public space: Beyond invented streets and reinvented places. *Journal of the American Planning Association* 67(1): 9–24.
- Boyer, M.C. (1992) Cities for sale: Merchandising history at South Street Seaport. In: M. Sorkin (ed.) *Variations on a Theme Park: The New American City and the End of Public Space*. New York: Hill and Wang, pp. 181–204.
- Carmona, M., Heath, T., Oc, T. and Tiesdell, S. (2003) *Public Places Urban Spaces: The Dimensions of URBAN DESIGN*. London: Architectural Press.
- Cooper Marcus, C. and Francis, C. (eds.) (1997) *People Places: Design Guidelines for Urban Open Space*. New York: John Wiley and Sons.
- Crawford, M. (1992) The world in a shopping mall. In: M. Sorkin (ed.) *Variations on a Theme Park: The New American City and the End of Public Space*. New York: Hill and Wang.
- Day, K. (1999) Strangers in the night: Women's fear of sexual assault on urban college campuses. *Journal of Architectural and Planning Research* 16(4): 289–312.
- Ellin, N. (2006) *Integral Urbanism*. New York: Routledge.
- Fernando, N. (2006) Open-ended space: Urban streets in different cultural contexts. In: K. Franck and Q. Stevens (eds.) *Loose Space: Possibility and Diversity in Urban Life*. New York: Routledge, pp. 54–72.
- Kayden, J. (2000) *New York City Department of Planning & Municipal Art Society, Privately Owned Public Space: The New York City Experience*. New York: John Wiley and Sons.
- Kayden, J. (2005) Using and misusing law to design the public realm. In: E. Ben-Joseph and T. Szold (eds.) *Regulating Place: Standards and the Shaping of Urban America*. New York: Routledge, pp. 115–140.
- Kohn, M. (2004) *Brave New Neighborhoods: The Privatization of Public Space*. New York: Routledge.
- Loukaitou-Sideris, A. and Banerjee, T. (1998) *URBAN DESIGN Downtown: Poetics and Politics of Form*. Berkeley, CA: University of California Press.
- Marcuse, P. (2005) The 'threat of terrorism' and the right to the city. *Fordham Urban Law Journal* 23: 767–785.
- Miller, K. (2007) *Designs on the Public: The Private Lives of New York's Public Spaces*. Minneapolis, MN and London: University of Minnesota Press.
- Mitchell, D. (2003) *The Right to the City: Social Justice and the Fight for Public Space*. New York: The Guilford Press.
- Németh, J. (2004) Redefining security in public space: The case of LOVE Park. *IEEE Technology & Society* 23(4): 19–20.
- Németh, J. (2009) Defining a public: The management of privately owned public space. *Urban Studies* 46(11): 1–28.
- Németh, J. and Schmidt, S. (2007) Toward a methodology for measuring the security of publicly accessible spaces. *Journal of the American Planning Association* 73(3): 283–297.
- Németh, J. and Schmidt, S. (2011) The privatization of public space: Modeling and measuring publicness. *Environment and Planning B: Planning and Design* 38(1): 5–23.
- Novak, S. (2009) Austin weighs joining cities making density deals with developers. *Austin American-Statesman* (29 November 2009) <http://www.statesman.com/news/content/business/stories/realestate/2009/11/29/1129density.html>, accessed 30 November 2009.
- Schmidt, S. (2004) World Wide Plaza: The corporatization of urban public space. *IEEE Technology and Society* 23(4): 17–18.
- Smithsimon, G. (2008a) Dispersing the crowd: Bonus plazas and the creation of public space. *Urban Affairs Review* 43(3): 325–351.
- Smithsimon, G. (2008b) Sunset in the Imperial City: How New York's public spaces presage the end of empire. *Journal of Aesthetics and Protest* 6: 18.

Sorkin, M. (1992) (ed.) *Variations on a Theme Park: The New American City and the End of Public Space*. New York: Hill and Wang.  
 Whyte, W. (1980) *The Social Life of Small Urban Spaces*. New York: Project for public space.

Zukin, S. (2009) *Naked City: The Death and Life of Authentic Urban Places*. New York: Oxford University Press.

## Appendix A

**Table A1:** Index variables

	<i>Approach</i>	<i>Scoring criteria</i>
<i>Features that control users</i>		
Visible sets of rules posted	Laws/Rules	0=none present 1=one sign or posting 2=two or more signs
Subjective/judgment rules posted	Laws/Rules	0=none present 1=one rule visibly posted 2=two or more rules visibly posted
In business improvement district (BID)	Surveillance/Policing	0=not in a BID 1=in a BID with maintenance duties only 2=in a BID with maintenance and security duties
Security cameras	Surveillance/Policing	0=none present 1=one stationary camera 2=two or more stationary cameras or any panning/moving camera
Security personnel	Surveillance/Policing	0=none present 1=one private security guard or up to two public security personnel 2=two or more private security or more than two public personnel
Secondary security personnel	Surveillance/Policing	0=none present 1=one person or space oriented toward reception 2=two or more persons or one person w/space oriented at reception
Design to imply appropriate use	Design/Image	0=none present 1=only one or two major examples 2=several examples throughout space
Presence of sponsor/advertisement	Design/Image	0=none present 1=one medium sign or several small signs 2=large sign or two or more signs
Areas of restricted or conditional use	Access/Territoriality	0=none present 1=one small area restricted to certain members of the public 2=large area for consumers only or several smaller restricted areas
Constrained hours of operation	Access/Territoriality	0=open 24 hours/day, seven days/week, most days of year 1=at least part of space open past business hours or on weekends 2=open only during business hours, or portions permanently closed
<i>Features encouraging freedom of use</i>		
Sign announcing 'public space'	Laws/Rules	0=none present 1=one small sign 2=one large sign or two or more signs
Public ownership/management	Surveillance/Policing	0=privately owned and privately managed 1=publicly owned and privately managed 2=publicly owned and publicly managed
Restroom available	Design/Image	0=none present 1=available for customers only or difficult to access 2=readily available to all
Diversity of seating types	Design/Image	0=no seating 1=only one type of stationary seating 2=two or more types of seating or substantial movable seating
Various microclimates	Design/Image	0=no sun or no shade or fully exposed to wind 1=some sun/shade, overhangs/shielding from wind and rain 2=several distinct microclimates, extensive overhangs, trees
Lighting to encourage nighttime use	Design/Image	0=none present 1=one type or style of lighting 2=several lighting types (e.g. soft lighting, overhead, lampposts)

**Table A1** *continued*

	<i>Approach</i>	<i>Scoring criteria</i>
Small-scale food consumption	Design/Image	0=none present 1=one basic kiosk or stand 2=two or more kiosks/stands or one larger take-out stand
Art/cultural/visual enhancement	Design/Image	0=none present 1=one or two minor installations, statues or fountains 2=one major interactive installation or frequent free performances
Entrance accessibility	Access/Territoriality	0=gated or key access only, and at all times 1=one constricted entry or several entries through doors/gates only 2=more than one entrance without gates
Orientation accessibility	Access/Territoriality	0=not on street level or blocked off from public sidewalk 1=street-level but oriented away from public sidewalk 2=visible with access off sidewalk (or fewer than 5 steps up/down)

## Appendix B

**Table B1:** Variable definitions: Features that control users

<i>Laws/Rules</i>	
Visible sets of rules posted	Official, visible signs listing <i>sets</i> of rules and regulations (not individual rules) on permanent plaques or 'table tents'. Listed rules should generally be objective and easily enforceable, like prohibitions against smoking, sitting on ledges, passing out flyers without permit, or drinking alcohol.
Subjective/judgment rules posted	Official, visible signs listing individual rules describing activities prohibited after personal evaluations and judgments of desirability by owners, managers or security guards. Such rules include: no disorderly behavior, no disturbing other users, no loitering, no oversized baggage or appropriate attire required.
<i>Surveillance/Policing</i>	
In business improvement district (BID)	Spaces located in business improvement districts (BIDs) are more likely to have electronic surveillance and private security guards, and less likely to include public input into decisions regarding park management. BIDs can employ roving guards to patrol especially problematic neighborhood spaces.
Security cameras	Although cameras must be visible to observer to be counted, many cameras are hidden from view. Cameras are often located inside buildings or on surrounding buildings but are oriented toward space. Stationary cameras are more common, often less intimidating than moving/panning cameras.
Security personnel	Scoring dependent on time of visit. Publicly funded police, park rangers, private security guards. For index, score only when security is dedicated to space. Since private security only directed by property owner, often more controlling (and score higher on index) since police trained more uniformly.
Secondary security personnel	Scoring dependent on time of visit. Includes maintenance staff, doorpersons, reception, café or restaurant employees, bathroom attendants. Also, spaces often oriented directly toward windowed reception or information area to ensure constant employee supervision.
<i>Design/Image</i>	
Design to imply appropriate use	Small-scale design to control user behavior or imply appropriate use. Examples might include: metal spikes on ledges; walls, barriers, bollards to constrict circulation or to direct pedestrian flow; rolled, canted, or overly narrow and unsittable ledges; or crossbars on benches to deter reclining.
Presence of sponsor/advertisement	Signs, symbols, banners, umbrellas, plaques tied to space's infrastructure, not to immediate services provided (eg cafés, kiosks). While non-advertised space is important for seeking diversion from city life, sponsored signs/plaques can push sponsors to dedicate resources for upkeep since company name is visible.

**Table B1** *continued*

<i>Access/Territoriality</i> Areas of restricted/ conditional use	Portions of space off-limits during certain times of day, days of week or portions of year. Can also refer to seating/tables only open to café patrons, bars open only to adults, dog parks, playgrounds, corporate events open to shareholders only, spaces for employees of surrounding buildings only.
Constrained hours of operation	While some spaces are permitted to close certain hours of day, spaces not open 24 hours inherently restrict usage to particular population. Also, while usually due to lack of adequate supervision, spaces open only during weekday business hours clearly prioritize employee use over general public.

**Table B2:** Variable definitions: Features that encourage freedom of use

<i>Laws/Rules</i> Sign announcing public space	Most zoning codes require publicly accessible spaces to exhibit plaques indicating such. Some spaces are clearly marked with signs denoting their public nature (for example, New York's Sony Plaza), but when a sign or plaque is hidden by trees/shrubs or has graffiti covering it, its intent becomes null.
<i>Surveillance/Policing</i> Public ownership/ management	Could fall in 'laws/rules' approach, but more likely to impact type/amount of security, electronic surveillance in a space. Management often by conservancy or restoration corporation. Spaces can be: publicly owned/publicly managed, publicly owned/privately managed, or privately owned/privately managed.
<i>Design/Image</i> Restroom available	Clearly some spaces are not large enough to merit public restroom. Realizing that free public restrooms often attract homeless persons, managers often remove them altogether or locate them in onsite cafés or galleries available to paying customers only (or providing keyed access for 'desirable' patrons).
Diversity of seating types	Amount of seating is often most important factor for encouraging use of public space. Users often evaluate entry to space based on amount of available seating and ability to create varying 'social distances'. Movable chairs allow maximum flexibility and personal control in seating choice.
Various microclimates	Spaces with various microclimate enclaves enlarge choice and personal control for users. Potential features might include: shielding from wind; overhangs to protect from rain; areas receiving both sun and shade during day; or trees/shrubs/grass to provide connection with natural landscape.
Lighting to encourage nighttime use	Studies indicate that vulnerable populations often avoid public spaces at night if not well-lit. Lighting spaces encourage 24-hour use, which has been shown to make visitors feel safer/more secure. However, critics argue that night lighting aids surveillance efforts and implies authoritative control.
Small-scale food consumption	Most agree that food vendors enhance activity and vitality. This variable only includes small cafés, kiosks, carts or stands selling food, drinks or simple convenience items. Sit-down restaurants, clothing stores and other full-scale retail establishments are not described by this variable.
Art/cultural/visual enhancement	Art and aesthetic attraction can encourage use. Variable can include stationary visual enhancements like statues, fountains or sculptures, also rotating art exhibits, public performances, farmers' markets, street fairs. Interactive features encourage use and personal control by curious patrons (often children).
<i>Access/Territoriality</i> Entrance accessibility	If a space has locked doors or gates, requires a key to enter, or has only one constricted entry, it often feels more controlled or private than one with several non-gated entrances. In indoor spaces where users must enter through doors or past checkpoints, symbolic access and freedom of use diminished.
Orientation accessibility	Spaces must be well-integrated with sidewalk and street, as those oriented away from surrounding sidewalk, or located several feet above or below street level, make space less inviting. Well-used spaces are clearly visible from sidewalk and users should be able to view surrounding public activity.