Toward a Methodology for Measuring Security and Accessibility of Public Spaces

By Jeremy Németh and Stephan Schmidt

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Jeremy Németh is a PhD candidate in Planning and Public Policy at Rutgers University. His interests are in urban design, social geography, and the politics of public space. He has professional planning experience in the U.S., U.K., Italy and Africa and has taught at Rutgers and Temple University.

Stephan Schmidt is an assistant professor in the Department of City and Regional Planning at Cornell University. His interests include the social context of design and planning and international comparative planning issues. He has taught at Rutgers University and New School University, and has had international experience in both Africa and Europe.
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Abstract

Safety and security are essential components of urban public space management, particularly since September 11, 2001. Although necessary for creating viable spaces, the prioritization of security is often criticized for restricting social interaction, constraining individual liberties, and excluding certain undesirable populations. This study examines legal, design, and policy tools used to exert social and behavioral control in publicly accessible urban spaces. Based on a review of the relevant literature as well as extensive site visits to public spaces in New York City, we create a comprehensive index that quantifies the degree to which a space is controlled. The index consists of twenty separate indicators gauging everything from a space’s legal or access restrictions to the intensity of surveillance and policing measures. We find this innovative instrument provides a useful method to evaluate publicly accessible spaces and has a number of potential applications in the fields of planning and public policy.
Introduction

In recent years, urban planners, geographers and legal theorists have paid significant attention to security in public spaces, as urban revitalization efforts are often fixated on the creation of safe spaces and the provision of public space is increasingly undertaken by the private sector (Davis, 1992; Ellin, 1996; Fyfe, 1998; Loukaitou-Sideris, 1996; Low, 2003; Pain, 2001). This emphasis on security has only been exacerbated since September 11, 2001, as owners and managers of parks and plazas frequently cite concerns over potential terrorist attacks as justification to increase behavioral control (Davis, 2001; Marcuse, 2002; Mitchell and Staeheli, 2005; Warren, 2002). However, some note that security concerns are nothing new, arguing that “the terrorist attacks…did not so much launch a new debate about public space as serve to intensify one that already exists” (Mitchell, 2003, p. 4).

These security measures have been criticized for restricting social interaction, constraining individual liberties, “militarizing” space, and excluding certain populations through interrelated legal, design, and policy tools (Davis, 1992; Graham and Marvin, 2001; Kohn, 2004). Some have argued that prioritizing security engenders a general retreat from social life and an “end of public culture” (Banerjee, 2001; Mitchell, 1995; Sennett, 1978; Sorkin, 1992).

Yet few studies have empirically tested such assertions or have documented actual methods and approaches used to secure such spaces. Scholars have failed to heed appeals such as William Whyte’s call for a “stiff clarifying test” to assess public access rights (1988). Mark Francis’s claim that “the effect of control on public environments raises several issues in need of further empirical study and design” and his call for “…a
study of the role of control in the design, management, and use of different public-space
types” have not been adequately addressed (1989, p. 168). Studies that have involved
observation-based research are limited as they either analyze a singular approach to
controlling space, such as the use of legal measures or design techniques, or instead fail
to objectively assess control, operating instead from the situated, experiential points of
Pain, 2001; Ruddick, 1996), racial and ethnic minorities (Jackson, 1998; McCann, 2000),

One reason for this dearth of pragmatic research is the absence of an adequate tool
with which to conduct such an analysis. We address this oversight by operationalizing a
comprehensive, conceptually-grounded index to allow researchers, city officials and
concerned citizens to empirically quantify the degree to which behavioral control is
exerted over users of publicly accessible spaces. We rely on relevant literature and
empirical observations of spaces in New York City to create this index. This paper
answers recent calls by critical scholars to bridge the gap between the theoretical
understandings of social/political space and the actual lived experiences of
physical/material spaces (Smith and Low, 2006).

It is important to note that the term public space can be applied to a wide variety
of social environments, from urban streets and sidewalks, to suburban shopping malls and
movie theaters, to the public forums and chat rooms of the Internet. These locations vary
along a continuum of relative publicness, and can be categorized according to concepts of
ownership, management and accessibility. In this paper we focus exclusively on parks,
squares and plazas – both publicly and privately owned – and refer to such sites as “publicly accessible spaces.”

**Securing Space**

There is a general consensus that “perceptions and feelings of personal safety are prerequisites for a vital and viable city” (Oc and Tiesdell, 1999, p. 265). This argument continues that the key to creating safer areas is the peopling of publicly accessible space, as the presence of others reassures users that there are an adequate number of “eyes on the street” to deter criminals and maintain a safe environment (Jacobs, 1961). This approach is based on two contentions: personal crime is more likely to occur in bleak, deserted areas; and fear of public space often stems from the fact that there are very few people around. In his landmark study of New York plazas, Whyte (1988) also demonstrated that use begets more use. In other words, passersby are more likely to enter a heavily used space, and the busier a space is the more users it will attract (until some critical mass is reached). This relationship is self-reinforcing: in order for spaces to be perceived as safe they must be well used, but those with a choice will only use spaces they perceive as safe.

However, scholars criticize this emphasis on security on two major grounds. First, the desire to attract a more orderly citizenry often comes at the expense of select individuals deemed objectionable or disorderly. As publicly accessible spaces are increasingly organized around consumption, those who contribute to the accumulation of capital by purchasing goods and services are welcomed, while those who fail to contribute are discouraged (Turner, 2002, p. 543; see also Fyfe and Bannister, 1998; Judd and Fainstein, 1999; Mitchell, 1995; Németh, 2006; Schmidt, 2004; Zukin, 1995). Put
differently, “purifying and privatizing spaces to enhance the consumption experience of some comes at a price of social exclusion and a sense of increasing inequality for others” (Fyfe, 1998, p. 7). As potential users/consumers might be turned away by unruly or unconventional people, spaces must not be accessible to those “disorderly people [that] may deter some citizens from gathering in the agora” (Ellickson, 1996, 1180). Critics claim the exclusion of such undesirable individuals is often based on conceptions of race, class, gender, or physical appearance (see Carmona et al., 2003; Cresswell, 1996; Flusty, 1994; Shields, 1989; Sibley, 1995). Some argue that managers of publicly accessible spaces frequently fail to make the vital distinction between identity and conduct:

The mere identity of a person as homeless [for example]…should never disqualify that person from using the space. On the other hand, if that person’s conduct…becomes such a nuisance to others that they are fully prevented from enjoying that space, then that person may legitimately be asked to…leave the space (Kayden et al., 2000, p. 147).

Second, the identification of undesirable people requires the polarization and segregation of users along concepts of appropriateness and orderliness through a variety of physical and non-physical methods. Wekerle and Whitzman suggest that “the paradox is that the law and order response kills the city it is purporting to save. It deepens the divisions and the fear of the ‘other’ which are among the most harmful effects of fear and crime” (1995, p. 6). While policing, surveillance and strict use regulations might stimulate perceptions of safety, they can also contribute to “accentuating fear by increasing paranoia and distrust among people” (Ellin, 1996, p. 153). Prioritizing security over other spatial considerations forces owners and managers to act as “spatial police, regulators of bodies in space, deciding who can do what and be where, and even when” (Sandercock, 1998, p. 166; see Berman, 1986; Ruddick, 1996). This trend has
implications for both the curtailment of individual civil liberties and freedoms of all users, and more generally, the erosion of the public realm and the debilitation of truly democratic expression (Crawford, 1992; Sennett, 1978; Young, 1990, 2000).

While some scholars identify high usage as an indicator of a successful space (see Carmona et al., 2003; Kayden et al., 2000), others argue that use itself should not be the only measure of success. An underutilized space, for example, may offer users a quiet, contemplative place to withdraw from the stresses of urban life (Loukaitou-Sideris and Banerjee, 1998, p. 302). In addition, “activity alone is not a good gauge of the public values attached to a space….use of an office tower plaza may be the result of a lack of meaningful alternatives” (Francis, 1989, p. 155). The goal of public space creation should not only be about increasing the sheer number of entrants, but also about creating space for a diversity of uses and users (Loukaitou-Sideris and Banerjee, 1998).

Political theorist Iris Young offers a normative ideal of publicly accessible space to which we subscribe. She argues that successful spaces must be universally accessible, and must contribute to democratic inclusion by encouraging interaction between acquaintances and strangers (Young, 2000; see also Kohn, 2004). Such ideal spaces serve as “the material location where social interactions and public activities of all members of the public occur” (Mitchell, 2003, p. 131, our emphasis). However, this vision is utopian, and the ideal of a universally inclusive and unmediated space can never be met (Ibid., p. 233). Public space is not homogeneous, and “the dimensions and extent of its publicness are highly differentiated from instance to instance” (Smith and Low, 2006, p. 3). In addition, “the public” is a contested term, and is constantly challenged and reformulated.
Consequently, an ideal publicly accessible spaces are those that encourage social interaction among as diverse a set of users possible. However, we do not claim that the most open or accessible spaces are always the most successful. Instead, successful public spaces adeptly balance liberty with personal security: while a mother with small child might prefer a secure and controlled environment, a homeless person or group of teenagers might favor spaces lacking such mediation. A methodological index which measures levels of spatial control allows users to make assertions about a successful space based on their own set of ideals.

**Approaches to Public Space Control**

We can effectively group spatial management techniques into hard (or active) control, and soft (or passive) control measures (Loukatiou-Sideris and Banerjee, 1998, pp. 183-5). Hard control involves the use of surveillance cameras, private security guards and legal measures to bar certain activities like soliciting, smoking, loitering or disorderly behavior. Soft control focuses on more symbolic techniques, such as access restriction during non-business hours, small-scale urban design measures (e.g. spikes on ledges), or the removal of public restrooms or food vendors that might attract undesirable users (see Whyte, 1988). Oc and Tiesdell (1999, 2000) further divided these groups into four major approaches: regulatory, fortress, panoptic and animated. Although we alter these categories, we utilize them as the point of departure for this discussion.

**Laws/Rules.** Under the general category of “hard” control, legal and regulatory measures signal the appropriate use of a space and, consequently, what types of persons are allowed. In this sense, laws are important signifiers of a space’s “social meaning” (Blomley, Delaney and Ford, 2001, p. xix). Since publicly accessible spaces are
increasingly owned and managed by the private sector, they are subject to the
prescriptions of the property owner, and the rules governing these spaces are often more
variable and inconsistent than those in publicly owned spaces. Rules can be “flexibly and
differentially enforced in order to sustain an illusion of openness while maximizing
management’s control” (Kohn, 2004, p. 13). In many cities, planning codes specify that
private owners can stipulate what they deem reasonable rules of conduct, and are not
subject to the same regulation or oversight as public owners (Kayden et al., 2000).

**Surveillance/Policing.** Another “hard” control technique is the use of surveillance
cameras and security patrols. Urban planners and property managers often support the
use of security cameras as a means to reduce criminal activity and alleviate fears of
crime, In recent years, the prevalence of cameras in public locations has increased
dramatically, even as research linking surveillance and decline in crime has been
anything but conclusive. Indeed, most studies conclude that crime in the most scrutinized
locations had simply been displaced to other areas of the city (Fyfe and Bannister, 1998,
p. 262). Electronic surveillance also stimulates concerns over privacy and civil liberties;
some critics argue that managers use cameras to identify and exclude “undesirable” users
based on appearance alone (Ellin, 1996; Koskela, 2000; Shields, 1989).

The use of security personnel to maintain order is another popular technique.
Business improvement districts (BIDs) often hire private security guards to patrol
neighborhood and commercial areas for signs of disorder “that drive shoppers, and
eventually store owners and citizens, to the suburbs” (Siegel, 1992, p. 43; see
MacDonald, 1996, 1998, 2002). BIDs are dependent on property owners to pay
operating expenses, and are consequently beholden to the priorities of their corporate
clients rather than to deeper notions of social equity (Christopherson, 1994; Katz, 2001; Zukin, 1995). As such, the priorities and mandates of private security guards differ significantly from those of the traditional public police force. The former’s primary concern is to protect the property and interests of the firms paying their salary rather than the public interest (Oc and Tiesdell, 1999, p. 272).

While studies show that people often feel safer in the presence of security personnel (Day, 1999; Fyfe and Bannister, 1998), the overabundance of security often generates suspicion that a space is not safe enough to operate without such a significant police presence. Put another way, “the social perception of threat becomes a function of the security mobilization itself, not crime rates” (Davis, 1990, p. 224). Whyte (1988) and others decry the use of such highly elaborate policing tactics, arguing instead that “good places are largely self-policing” (1988, p. 158). Managers of urban spaces are now increasingly likely to prioritize more indirect, secondary surveillance provided by the janitors, maintenance staff, valets, receptionists, and doormen working in the space or its immediate vicinity. As Jacobs maintains: “no amount of police can enforce civilization where the normal, casual enforcement of it has broken down” (Jacobs, 1961, p. 41; see Oc and Tiesdell, 1997, 1999).

**Design/Image.** Design, an example of “soft” control, can be used both literally and symbolically to control behavior and use of publicly accessible space. Christopherson (1994) describes how in response to real or perceived threats to security, urban designers and architects – often at the behest of property managers or owners – can specify rigid, orderly arrangements to control activity. These decisions can either “reinforce or challenge existing patterns of inclusion or exclusion” (Kohn, 2004, p. 7), because they
often dictate appropriate spatial use, and render a space less inviting to those failing to use it in such a manner. If a designer specifies benches outfitted with metal crossbars to prohibit reclining homeless people, it becomes clear that decisions concerning the physical design have socio-cultural consequences far beyond the material changes prescribed by these particular measures (Oc and Tiesdell, 1997). Design can also “code” a space to enforce a certain type of user and activity. In this sense, “urban design organizes bodies socially and spatially…it can stage and frame those who inhabit its spaces” (Rendell, 1998, p. 84).

Critics like Mike Davis (1990) maintain that designers use their power to fortify publicly accessible spaces, transforming them into defensive (or defensible) bastions (see Ellin, 1996; Flusty, 1994; Mitchell, 1995). Whyte (1988) says that this response is calculated: property owners often worry that if a place is made too attractive it will attract the very undesirable people they were trying to keep out in the first place. Physical redesigns become extremely attractive options since “design mechanisms are more expedient than having to legislate civility in public spaces” (Loukaitou-Sideris and Banerjee, 1998, p. 163).

However, as stated previously, many owners and managers of publicly accessible spaces believe, via Jane Jacobs, that the more people present in a space the safer it will be. For this reason, managers entice potential users through measures that improve a space’s image and, subsequently, increase overall usage. Such techniques include the introduction of public restrooms, food vendors or kiosks, movable chairs, flexible seating, sculptures, and interactive art, as well as an increased attention to environmental factors such as sun, nighttime lighting, wind, shadows, and trees (see Whyte, 1988). In
addition, owners often pay for such improvements through lucrative sponsorship deals with private corporations who finance the particular upgrade or addition (such as the HSBC Bank Reading Room or Evian-sponsored umbrellas in New York City’s Bryant Park, or the Trump Organization’s Wollman Skating Rink in Central Park). Critics lament the overuse of visible advertising in public spaces, arguing that users are frequently attracted to parks and publicly accessible spaces as a retreat from the often unrelenting visual stimulation of billboards, signs and posters which dominate urban environments (Katz, 2006; Loukaitou-Sideris and Banerjee, 1998).

**Access/Territoriality.** Another set of “soft” control techniques, access restrictions and territorial separation are frequently used to attract a specific user. This is accomplished by programming certain areas for restricted or conditional use, such as cafés or restaurants which require patrons to pay in order to enter an area or sit at tables (see Newman 1972). While the programming of activities like chess, bocce, or dog parks attract certain users, this practice has a tendency to restrict rather large areas of spaces to single uses only, leaving the rest of the less specialized users to crowd into the leftover space. In this regard, the division of territory can segregate users by determining who can and cannot enter, and who belongs in a particular area and who does not (Oc and Tiesdell, 1999, p. 270).

Carr et al. (1992) divide access into three different forms: visual, physical and symbolic (from Carmona et al., 2003). Visual access is the ability to look into a space: “people will not use spaces they cannot see” (Whyte, 1988). Whyte’s astute observations determined that a plaza’s relationship to the street and sidewalk is vital in attracting users into a space. By viewing just enough of a space to notice who is using it, and in what
manner, people can quickly assess whether they would feel comfortable once inside (Carmona, et al., 2003; Whyte, 1988).

Physical access involves one’s actual ability to enter a space. The denial of physical access often occurs when the manager of a (supposedly) publicly accessible space closes the space’s gates or locks its doors when it is legally required to be open, or keeps a space open only to employees working in the building to which it is attached. Kayden (2005) also describes how private owners of publicly accessible spaces can deny access to patrons by barricading the space behind plywood or closing a space for construction for many months “without apparent end” (p. 126).

Symbolic access concerns whether one feels welcome in a space. Passing through a constricted entry, gate, or door, or even through a security checkpoint can make visitors feel uncomfortable. Owners and managers of spaces can accentuate such feelings by placing a physical barrier such as a dumpster or scaffolding at a space’s most convenient or natural entry point (Kayden, 2005, p. 126). Loukaitou-Sideris and Banerjee (1998) describe how many privately owned public spaces, especially those intended to project a certain corporate image, tend to be introverted and physically disconnected from the broader public realm. They achieve this disconnection by setting the space several steps above or below the public sidewalk: “once past three feet a space can become relatively inaccessible…it is not only a physical matter so much as a psychological one” (Whyte, 1988, p. 129).

**Index Construction**

These four major approaches form the basis for the construction of our index. We also relied on site visits to 171 publicly accessible spaces in New York City, which has
over 1,700 parks, playgrounds and recreation facilities totaling 28,000 acres (New York Parks and Recreation, 2006) and more than 500 privately owned but publicly accessible spaces, comprising 82 aggregate acres (Kayden et al., 2000). We used two further criteria to narrow down our selection of spaces.

First, we limited our study to midtown Manhattan, a high-density pedestrian area with the greatest concentration of highly trafficked publicly accessible spaces in the city. Coterminous with the boundaries of Community Board 5 and roughly bounded on the south by 14th Street and on the north by 59th Street, the area includes many higher-profile corporate headquarters and business interests to which security establishment is an important priority.

Second, we visited publicly accessible spaces with different owner/management regimes in order to sample as wide a variety of spaces as possible. These include parks and places which are privately owned and operated (e.g. Trump Tower), publicly owned but privately operated (e.g. Bryant Park), and publicly owned and operated (e.g. Union Square). While control measures in this last group must conform to uniform standards, official regulations stipulate only that privately owned or operated spaces must provide “reasonable” rules of conduct similar to the uniform regulations in publicly owned parks and plazas (Kayden et al., 2000). Because of this lack of regulatory uniformity, privately owned or operated spaces often employ very different sets of security and control measures than those in their publicly owned and operated counterparts.

We acknowledge that limiting the fieldwork to midtown Manhattan introduces questions of generalizability. The details and construction of the index will differ somewhat depending on particular characteristics and conditions. Nevertheless, we feel
these sites present a unique opportunity. First, the security of publicly accessible spaces, both public and private, is an especially significant issue in New York City, particularly since September 11, 2001. In addition, choosing heavily trafficked, high profile spaces allows us to witness spatial control at its most prominent and deliberate. We are therefore able to incorporate the widest variety of measures to both control behavior and foster user freedoms.

We operationalized twenty variables for the index, grouped into the aforementioned categories. By grouping the variables by category, the index determines the overall character of the strategy employed by owners and managers of each space (Oc and Tiesdell, 1999, p. 270). Of the twenty variables, ten were determined to control users while ten encouraged freedom of use.

Perceptions of control are both variable and subjective, as one user might experience feelings of safety or security differently than another. In order to reduce this subjective bias and make the index more uniform and objective, we provide the scoring rubric (0, 1, or 2) for each variable based on the presence and intensity of various factors. Scores are then totaled: the lower score a space receives (either overall, on a particular approach, or on a specific variable), the more controlled it is, and vice versa. The overall score is calculated by subtracting the total score for all features that control users from the total score for all features that encourage freedom of use. The highest possible score is a 20 (least controlled), the lowest is a –20 (very controlled), and a relatively neutral score would be a 0. Although each observer’s score may vary slightly for any given variable, we rigorously adapted and independently confirmed the scoring options following extensive site visits in order to preclude any potential scoring conflicts.
As we stated earlier, the index does not judge a space on its level of use, sociability or success. In New York City, many of the better-designed spaces are of “a higher quality that now attracts the very public that some owners then attempt to discourage from using the space,” forcing managers to introduce additional security measures (Kayden, 2005; p. 125). Conversely, managers of underutilized public spaces may have no need to implement strong security regimes since there are no persons to control (Lees, 1998). For these reasons, the index accounts for variables that control users as well as those that encourage freedom of use. Otherwise better-designed and better-used spaces would surely score higher on the index (be more controlling) than their underutilized counterparts. Table 1 below describes the variables and scoring criteria for each, while Tables 2a and 2b provide a more detailed description of each variable. For illustrative purposes, Table A-1 of the Appendix depicts the total scores for two publicly accessible spaces, Washington Square Park and Sony Plaza.

[Table 1 about here]

[Table 2a about here]

[Table 2b about here]
Issues of Application

As with any individual evaluation or assessment, validity is an important issue to consider in the application of the index. We encourage those using the index to obtain empirical data through independent responses by various users, owners, managers or experts familiar with the spaces under examination. At a minimum, two separate observers should conduct multiple visits to spaces to help ensure a degree of consistency.

In addition, certain variables are time-dependent. For example, a scorer may enter a public space and find no security guards visible during the 20 minutes in which he or she occupied the space. Another scorer may visit the space the following day or week and find several security guards present. In such cases, it is important to defer to the higher score, as it is obvious that the particular space does, in fact, retain or employ several security personnel. Such situations stress the importance of multiple individual visits during the busiest hours of the day, with the time and date of each visit recorded.

Naturally, the index can only account for measures visible during a particular site visit. If no security guards are present in a space legally obligated to retain two guards, observers should score the space as it existed during that particular visit.

We illustrate the scoring process with the following examples. Figures 1 and 2 depict the scoring for the variable subjective/judgment rules posted. Figure 1 shows that although the official rules of Washington Square Park urges users to “be courteous and respectful,” none of the rules are subjective in nature. Based on the scoring criteria in Table 2, the space received a 0 on this variable. Figure 2 shows a typical table tent located on each of Sony Plaza’s 104 public tables. The rules prohibit “disorderly conduct,” “obscene gestures,” and “creating conditions that disturb others,” regulations
that can only be enforced after a judgment by the enforcer. We scored the space a 2 on this variable.

Figures 3 and 4 demonstrate the scoring of the variable *restroom available*. Figure 3 shows the outdoor, visible, publicly accessible restroom in Washington Square Park. Figure 4 depicts the restroom at Sony Plaza, which was difficult to access as it is located inside the Sony Wonder exhibit. Following our scoring criteria, we scored Washington Square Park a 2 and Sony Plaza a 1, since entry to the restroom was monitored during the day by Sony employees.

As a final example, Figures 5 and 6 illustrate how we scored the variable *entrance accessibility*. Figure 5 shows one of the twelve major entry points to Washington Square Park without gates and open 24 hours. Figure 6 shows the entry to Sony Plaza through a set of glass doors. Because the entrant must cross through the “symbolic” barrier to the space, Sony Plaza received a 1. Washington Square Park, with its multiple, ungated entry points, was scored a 2 on this variable.
Conclusions and Future Research

This paper operationalizes a comprehensive methodological tool to allow researchers, city officials and citizens to empirically evaluate the degree to which control is exerted over users of publicly accessible spaces. This index helps link theoretical understandings of space with empirical observations, and suggests several potential applications for urban researchers, planners and policymakers, and neighborhood or community groups in a number of geographical contexts.

This tool enables empirical testing of a number of assertions. First, are public spaces becoming increasingly restrictive and controlled over time, as some critics claim (Banerjee, 2001; Kohn, 2004)? The systematic application of our index allows researchers to monitor the changing presence and intensity of control, as owners and managers frequently update or alter their space’s security measures. Second, Day (1999) and others argue that some of the most popular publicly accessible spaces are those that exert the most behavioral control over users. The index allows empirical testing of this and similar allegations correlating success, use, and control. Third, do certain socioeconomic or demographic populations prefer particular levels of spatial security? Researchers can apply the index to several sites, then compare scores with user counts and preference surveys to determine whether significant correlations exist.
Practitioners can apply these research findings to improve the design and maintenance of publicly accessible spaces, and bring more balance to discussions concerning security and freedom of access and use. The index also enables planners, policymakers and business improvement district (BID) officials to more efficiently and effectively assess levels of spatial control and adjust these levels based on a set of predetermined criteria. For example, planners could determine an ideal level of security based on the level of crime in a particular block or neighborhood. The application of the index could then suggest the need for an increase or decrease in the presence and intensity of certain measures. Similarly, planners are able to assess whether, as is commonly believed, crime rates and security levels are inversely related, and determine which measures might be more or less effective in reducing criminal activity.

Finally, the index has important applications for neighborhood and community groups, local residents, students, and public and private organizations concerned about the steady erosion of civil liberties in the public realm. It can provide empirical evidence to defend claims that publicly accessible spaces are, in fact, becoming less accessible. Additionally, publicly available, interactive, and real-time scoring of such public spaces may be of interest to these parties. In this regard, the index can also serve to engage local communities and help facilitate public participation in the production of the built environment.

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Notes

1 During a recent visit to Sony Plaza, one of the authors attempted to enter the restroom but was asked whether he had a ticket to enter the exhibit. A Sony employee soon reneged after looking the author up and down, pulling back the barrier, and stating “alright, just this one time.”
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<thead>
<tr>
<th>Features that control users</th>
<th>Approach</th>
<th>Scoring criteria</th>
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<tbody>
<tr>
<td>visible sets of rules posted</td>
<td>Laws/Rules</td>
<td>0 = none present 1 = one sign or posting 2 = two or more signs</td>
</tr>
<tr>
<td>subjective/judgment rules posted</td>
<td>Laws/Rules</td>
<td>0 = none present 1 = one rule visibly posted 2 = two or more rules visibly posted</td>
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<td>in business improvement district (BID)</td>
<td>Surveillance/Policing</td>
<td>0 = not in a BID 1 = in a BID with maintenance duties only 2 = in a BID with security duties</td>
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<tr>
<td>security cameras</td>
<td>Surveillance/Policing</td>
<td>0 = none present 1 = one stationary camera 2 = two or more stationary cameras or any panning/moving camera 0 = none present</td>
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<tr>
<td>security personnel</td>
<td>Surveillance/Policing</td>
<td>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 0 = none present</td>
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<tr>
<td>secondary security personnel</td>
<td>Surveillance/Policing</td>
<td>0 = none present 1 = one person or space oriented toward reception 2 = two or more persons or one person w/ space oriented at reception 0 = none present</td>
</tr>
<tr>
<td>design to imply appropriate use</td>
<td>Design/Image</td>
<td>0 = none present 1 = only one or two major examples 2 = several examples throughout space 0 = none present</td>
</tr>
<tr>
<td>presence of sponsor/advertisement</td>
<td>Design/Image</td>
<td>0 = none present 1 = one medium sign or several small signs 2 = large sign or two or more signs 0 = none present</td>
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<tr>
<td>areas of restricted or conditional use</td>
<td>Access/ Territoriality</td>
<td>0 = open twenty-four 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</td>
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<tr>
<th>Features encouraging freedom of use</th>
<th>Approach</th>
<th>Scoring criteria</th>
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<tbody>
<tr>
<td>sign announcing 'public space'</td>
<td>Laws/Rules</td>
<td>0 = none present 1 = one small sign 2 = one large sign or two or more signs 0 = privately owned and privately managed</td>
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<tr>
<td>public ownership/management</td>
<td>Surveillance/Policing</td>
<td>0 = privately owned and privately managed 1 = publicly owned and privately managed 2 = publicly owned and publicly managed 0 = none present</td>
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<tr>
<td>restroom available</td>
<td>Design/Image</td>
<td>0 = no seating 1 = available for customers only or difficult to access 2 = readily available to all 0 = no seating</td>
</tr>
<tr>
<td>diversity of seating types</td>
<td>Design/Image</td>
<td>0 = none present 1 = only one type of stationary seating 2 = two or more types of seating or substantial movable seating 0 = no sun or no shade or fully exposed to wind</td>
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<tr>
<td>various microclimates</td>
<td>Design/Image</td>
<td>0 = none present 1 = some sun/shade, overhangs/shielding from wind and rain 2 = several distinct microclimates, extensive overhangs, trees 0 = none present</td>
</tr>
<tr>
<td>lighting to encourage nighttime use</td>
<td>Design/Image</td>
<td>0 = none present 1 = one type or style of lighting 2 = several lighting types (e.g. soft lighting, overhead, lampposts) 0 = none present</td>
</tr>
<tr>
<td>small-scale food consumption</td>
<td>Design/Image</td>
<td>0 = none present 1 = one basic kiosk or stand 2 = two or more kiosks/stands or one larger take-out stand 0 = none present</td>
</tr>
<tr>
<td>art/cultural/visual enhancement</td>
<td>Design/Image</td>
<td>0 = none present 1 = one or two minor installations, statues or fountains 2 = one major interactive installation or frequent free performances 0 = gated or key access only, and at all times</td>
</tr>
<tr>
<td>entrance accessibility</td>
<td>Access/ Territoriality</td>
<td>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 0 = not on street level or blocked off from public sidewalk</td>
</tr>
<tr>
<td>orientation accessibility</td>
<td>Access/ Territoriality</td>
<td>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)</td>
</tr>
</tbody>
</table>
Table 2a. Variable definitions: Features that control users

<table>
<thead>
<tr>
<th><strong>Laws/Rules</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>visible sets of rules posted</td>
<td>Official, visible signs listing <em>sets</em> 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.</td>
</tr>
<tr>
<td>subjective/judgment rules posted</td>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Surveillance/Policing</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>in business improvement district (BID)</td>
<td>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.</td>
</tr>
<tr>
<td>security cameras</td>
<td>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.</td>
</tr>
<tr>
<td>security personnel</td>
<td>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.</td>
</tr>
<tr>
<td>secondary security personnel</td>
<td>Scoring dependent on time of visit. Includes maintenance staff, doormen, reception, café or restaurant employees, bathroom attendants. Also, spaces often oriented directly toward windowed reception or information area to ensure constant employee supervision.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Design/Image</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>design to imply appropriate use</td>
<td>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 unsuitable ledges; or crossbars on benches to deter reclining.</td>
</tr>
<tr>
<td>presence of sponsor/advertisement</td>
<td>Signs, symbols, banners, umbrellas, plaques tied to space’s infrastructure, not to immediate services provided (e.g. 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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Access/Territoriality</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>areas of restricted/conditional use</td>
<td>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.</td>
</tr>
<tr>
<td>constrained hours of operation</td>
<td>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.</td>
</tr>
</tbody>
</table>
### Table 2b. Variable definitions: Features that encourage freedom of use

#### Laws/Rules

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sign announcing public space</td>
<td>Most zoning codes require publicly accessible spaces to exhibit plaques indicating such. Some spaces are clearly marked with signs denoting their public nature (e.g. 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.</td>
</tr>
</tbody>
</table>

#### Surveillance/Policing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>public ownership/management</td>
<td>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.</td>
</tr>
</tbody>
</table>

#### Design/Image

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>restroom available</td>
<td>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). 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.</td>
</tr>
<tr>
<td>diversity of seating types</td>
<td>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.</td>
</tr>
<tr>
<td>various microclimates</td>
<td>Studies indicate that vulnerable populations often avoid public spaces at night if not well-lit. Lighting spaces encourages 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.</td>
</tr>
<tr>
<td>lighting to encourage nighttime use</td>
<td>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.</td>
</tr>
<tr>
<td>small-scale food consumption</td>
<td>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).</td>
</tr>
<tr>
<td>art/cultural/visual enhancement</td>
<td></td>
</tr>
</tbody>
</table>

#### Access/Territoriality

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>entrance accessibility</td>
<td>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.</td>
</tr>
<tr>
<td>orientation accessibility</td>
<td>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.</td>
</tr>
</tbody>
</table>
Captions for Figures 1-6

See jpg files sent separately. All photos taken by authors.

Figure 1. Washington Square Park rules
Figure 2. Sony Plaza rules
Figure 3. Washington Square Park restroom
Figure 4. Sony Plaza restroom location inside exhibit
Figure 5. Washington Square Park entry
Figure 6. Sony Plaza entry
# Appendix

Table A-1. Sample scoring sheet comparing two random spaces: Washington Square Park and Sony Plaza

<table>
<thead>
<tr>
<th>Features that control users</th>
<th>Approach</th>
<th>Wash. Sq. Park</th>
<th>Sony Plaza</th>
</tr>
</thead>
<tbody>
<tr>
<td>visible sets of rules posted</td>
<td>Laws/Rules</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>subjective/judgment rules posted</td>
<td>Laws/Rules</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>in business improvement district (BID)</td>
<td>Surveillance/Policing</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>security cameras</td>
<td>Surveillance/Policing</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>security personnel</td>
<td>Surveillance/Policing</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>secondary security personnel</td>
<td>Surveillance/Policing</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>design to imply appropriate use</td>
<td>Design/Image</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>presence of sponsor/advertisement</td>
<td>Design/Image</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>areas of restricted or conditional use</td>
<td>Access/ Territoriality</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>constrained hours of operation</td>
<td>Access/ Territoriality</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>6</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Features encouraging freedom of use</th>
<th>Approach</th>
<th>Wash. Sq. Park</th>
<th>Sony Plaza</th>
</tr>
</thead>
<tbody>
<tr>
<td>sign announcing 'public space'</td>
<td>Laws/Rules</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>public ownership/management</td>
<td>Surveillance/Policing</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>restroom available</td>
<td>Design/Image</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>diversity of seating types</td>
<td>Design/Image</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>various microclimates</td>
<td>Design/Image</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>lighting to encourage nighttime use</td>
<td>Design/Image</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>small-scale food consumption</td>
<td>Design/Image</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>art/cultural/visual enhancement</td>
<td>Design/Image</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>entrance accessibility</td>
<td>Access/ Territoriality</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>orientation accessibility</td>
<td>Access/ Territoriality</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>19</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

**OVERALL SCORE**

13 -5