

ENCOURAGING DEVELOPMENT OF A QUALITY URBAN OPEN SPACE SYSTEM

LESSONS FROM THE FIELD



April 2011

This project provides recommendations for Durham, North Carolina, for urban open space planning developed from a study of efforts in other cities.

URBAN OPEN SPACE

Author

Krista Holub, Master's Candidate, May 2011
Department of City & Regional Planning, UNC-Chapel Hill
Email: kholub@email.unc.edu

Advisor

[REDACTED]
[REDACTED]
[REDACTED]

Acknowledgments

Thank you to the professionals listed below whom provided valuable information for this study. I am extremely grateful for your valuable time and for your willingness to share your experiences.

Alex Ashton, Open Space Committee; Guilford County, NC
Dean Bowles, Department of Recreation, Parks and Open Space; City of Norfolk, VA
Sue Exline, Planning Department; San Francisco, CA
Troy Houtman, Parks and Recreation Department, Austin, TX
Christopher Morgan, Planning Preservation and Sustainability; City of Charleston, SC
Chad Morris, Department of Recreation, Parks and Open Space; City of Norfolk, VA
Cathy Ruff, Greenbelt Program; Charleston, SC
Dabney Sanders, Action Greensboro; Greensboro, NC
Ricardo Soliz Parks and Recreation Department, Austin, TX
Roy Jambor, City of Shreveport, LA
Dan Thilo, City of Charlotte, NC
Chris Wilson, City of Greensboro, NC
Planning Department staff with the City of Austin, TX

I wish to express a very special thank you to Aaron Cain, Acting Planning Supervisor with Durham City-County Planning Department; and planning staff members on the Urban Open Space project, Anne Kramer, Helen Youngblood, and Thomas Dawson. Thank you for connecting me to this project and for all your feedback throughout the process.

I am profoundly thankful for the constant guidance, teaching, and advising from Mai Nygen. Lastly, words cannot express my gratitude for the lifelong encouragement to pursue my educational goals from my parents and family; and the constant support, love, and editing assistance from Kennedy Comer.

Cover Photo: Center City Park, Greensboro, NC; Joe Solar and Action Greensboro staff.

Table of Contents

Executive Summary.....	1
Introduction	2
Background Information	3
Provisioning and Use of Urban Open Space	6
Evaluating Urban Open Space.....	9
Methodology.....	11
Analysis of Open Space Plans and Practices	14
Typologies of Urban Open Space	14
Urban Open Space Vision Statements	16
Private Development and Management of Urban Open Space	17
Design Guidelines and Standards	23
Operations and Maintenance	29
Funding	30
Recommendations	32
Improve the Downtown Trail System	32
Plan for Adequate Operations including Maintenance and Repairs	33
Program and Activate	34
Engage Stakeholders.....	35
Set Minimum Requirements for Provision and Design.....	36
Conduct Post-Occupancy Evaluations.....	37
Appendix A: Participant Consent Form.....	38
Appendix B: Guided Interview Questionnaire	39
Appendix C: Open Space Requirements, Charlotte, NC.....	40
Appendix D: Open Space Requirements, San Francisco, CA.....	43
Appendix E: Open Space Requirements, Norfolk, VA.....	47
References	49

Table of Images

Image 1: Center City Park, Greensboro, NC.....	14
Image 2: Non-Permanent Green Space, San Francisco, CA	15
Image 3: Waterfront Park, Shreveport, LA	16
Image 4: Center City Park, Greensboro, NC.....	16
Image 5: Center City Park, Greensboro, NC.....	17
Image 6: Downtown Greenway, Greensboro, NC.....	18
Image 7: Town Point Park, Norfolk, VA.....	19
Image 8: The Green Plaza Uptown, Charlotte, NC.....	21
Image 9: POPS, San Francisco, CA.....	22
Image 10: Privately Owned Public Space, The Plaza Uptown, Charlotte, NC	23
Image 11: Zellerbach Plaza, San Francisco, CA	25
Image 12: Center City Fountain, Greensboro, NC.....	28
Image 13: Branch Square in need of maintenance, Austin, TX.....	29
Image 14: Downtown Greenway Sign, Greensboro, NC.....	31
Image 15: Public Participation at UOS Open House, Durham, NC.....	35
Image 16: Downtown Historic Building, Durham, NC.....	36
Image 17: Convention Center Plaza, Durham, NC	37

Executive Summary

Urban Open Space (UOS) planning is an important part of central city revitalization that is happening in cities across the nation. There are defined and quantifiable social, economic and environmental benefits of UOS. However, there is still much that we do not know regarding how to maximize the return on open space developments.

This study evaluates how urban open space efforts are being carried out in eight selected U.S. cities to understand: 1) How is the private provisioning of publicly accessible urban open space occurring in cities and what lessons can be learned to improve the process and outcomes? 2) How is quality urban open space developed, funded, codified, measured, and maintained?

Six factors regarding open space emerged from the analysis of the case study cities' plans and processes. These factors are discussed in detail; typologies of UOS, vision statements, private development and management, design guidelines, operations and maintenance, and funding.

From the lessons learned through the study, six suggestions were developed for the UOS planning efforts of the Durham City-County Planning Department:

- 1) **Improve the downtown trail system:** Durham should challenge itself to both create a connected green network through downtown and capitalize on the economic opportunities along the trail.
- 2) **Plan for adequate operations, maintenance, and repairs:** Durham should review its current levels of maintenance to assess their adequacy, set guidelines for the minimum operational expense requirements for new spaces, and encourage the development of formal organizations that contribute to and enhance the care and stewardship of open spaces.
- 3) **Program and activate:** Durham should include and budget for programming of the open space areas to create consistent use of UOS by a variety of users.
- 4) **Engage stakeholders:** The Durham UOS planning effort should engage all stakeholders early in the process and coordinate continually as needed.
- 5) **Set minimum requirements for provision and design:** Durham should set minimum requirements for provision and design of UOS to set a standard and communicate minimum expectations for developers interested in downtown.
- 6) **Conduct post-occupancy evaluations:** Durham should conduct post-occupancy evaluations of open spaces to gauge and respond to user needs and also document its successes with UOS.

Introduction

Central city growth and revitalization has been a major trend in the United States now for several decades. Despite the fact that much urban growth has been in an expanding land area now called mega regions, there is a shared realization echoed among public officials and regional stakeholders that the central core of a city is vital to the overall economic health of the region. With this mindset, beginning in the 1980s, cities across the country undertook major downtown revitalization projects that included quasi-public open space amenities from waterfront redevelopments to festival marketplaces. These new types of open spaces often replaced the traditional public gathering areas in downtowns.

Today the idea that high-quality public open space should be a fundamental right rather than an amenity for urban areas is a sentiment that is being reflected in cities across America.¹ Many cities, from the largest to the smallest have placed an increased importance on planning for and implementing open space plans. These plans are often developed as part of, or in coordination with downtown revitalization plans.

The challenge for many cities, however, has been finding a balance between commercial, retail, and residential development and open space development. Some of the earliest cities to adopt urban open space (UOS) regulations (Chicago, New York, San Francisco, and Charlotte) were, at the time faced with immense development pressure that provided the impetus for open space regulations. Smaller cities also face a dilemma, namely, how to preserve or develop open space in the most expensive land market while simultaneously encouraging economic growth and development? The answer for many cities has been through the private development of publically accessible UOS.

There is much that has been learned from these efforts to increase open space and specifically about the demand for space, benefits, and public usability. First, we know that there is a clear demonstration of the demand for open space from the well-attended public participation meetings regarding open space plans to the success of public referendums that tax residents pay for open space efforts. Second, there are real monetary and non-monetary benefits arising from UOS. The social, economic and environmental values of UOS are not fully replaceable with other types of development. Third, design impacts how urban open spaces are used. For example, a challenge stemming in part from the regulated private development of UOS has been the design of spaces that are not user friendly. In response to ill-designed urban spaces and the changing form of public space, there has

¹ Rogers, R (2008). Our right to see the trees: Parks and squares aren't a luxury, but an essential feature of the urban infrastructure. *The Guardian*, 17 March 2008. Retrieved October 2010 from <http://www.guardian.co.uk/commentisfree/2008/mar/17/communities> ; and City of Durham. (n.d.). Urban Open Space Plan. Retrieved October 2010 from www.durhamnc.gov.

been much written, particularly notable are William Whyte's and Jane Jacob's writings about creating "people-centered" spaces through quality design.

However, there is still much that we do not know regarding how to maximize the return on open space developments. The lack of clear procedures to capitalize on private development of UOS is especially of concern. For example, how should private development be encouraged? When should it be avoided? How can the quality and usability of open space development be regulated? These unanswered questions are the motivation for this study. This study examines urban open space plans, regulations, and processes in eight cities in the U.S. in order to better understand how such efforts impact the development, functionality, and long-term sustainability of urban open space. This study is intended to guide the Durham City-County Planning Department in its UOS planning efforts.

This paper is divided into four sections. The first section provides an introduction to and information on UOS. It details basic background information, discusses the private provisioning and describes methods for evaluating UOS. The second section covers the case study methodology of the research including the sample selection, data collection and analysis. The third section presents the case study analysis divided into six subsections based on the following themes: 1) typologies, 2) vision statements, 3) private development and management, 4) design guidelines, 5) operations and maintenance, and 6) funding. The fourth and final section offers recommendations for Durham's UOS planning efforts.

Background Information

Defining Urban Open Space

What is urban open space? What makes a place public? A simple definition of urban open space is - open areas for public use that are situated within the urban fabric of a city. The term, urban open space, is also often used interchangeably with terms such as public space, green space, or urban parkland; although these can all have slightly different meanings.

Defining the characteristics of urban open space is quickly complicated when we consider privately owned space that is public, which in a legal framework is contradictory.² Traditionally, public places are thought to include city squares, sidewalks, markets, and transportation hubs. Public space must be indiscriminate about who is permitted to use the space and what activities occur in the space (outside of illegal activities).³ On the other

² Kayden, J. S. (2000). *Privately owned public space: The new york city experience*. New York: John Wiley.

³ Loukaitou-Sideris A. and Ehrenfeucht, R. (2009). *Sidewalks: Conflict and negotiation over public space*. Cambridge, Massachusetts: MIT Press.

hand, private space is often characterized by exclusion and limitation of uses. However, the distinction between private and public space is not clear cut, rather it spans a continuum making it difficult to precisely define.⁴ The three dimensions of access, control, and ownership are what truly determine the distinction between private and public space. For instance, typical urban open spaces such as parks, plazas, streets, and greenways can be publically or privately owned, often without the users realizing the difference. For the purposes of this study, open space is defined as space that is developed for the public use and enjoyment. This study will also pay particular attention to *urban* open spaces, those that are located downtown or in the central core of a city, and which fall into two categories: 1) publically owned and accessible or 2) publically accessible but privately owned.

The Value of Urban Open Space

The land in downtown areas often has the most value and potential to generate taxes for the city coffers based on the bid rent economic theory. In order to justify the development or preservation of UOS on this high valued property, it is helpful to quantify the benefits of such spaces. The value of UOS can be separated into three categories, 1) social capital, 2) economic capital, and 3) environmental resource capital.

The value of urban open space, or in this case more specifically public space, as a source of social capital is generated from its political, social, and symbolic importance.⁵ As a political value, public open space represents the places where plurality exists. It is where minority views or labor grievances can be expressed freely to educate the public at-large.⁶ It is also the venue for candidates or advocates of issue campaigns to engage face-to-face with potential voters. The social value of public space is the opportunity such places offer for interacting with others. The social interaction that occurs in public places is important as it often represents communication and negotiation between non-homogenous users who may otherwise have little opportunity or reason to intermingle.⁷ Lastly, public spaces are symbols of the larger collective identity and signal norms and traditions of the culture. They can signal the character of a city as well as provide a source of common identity and civic pride for the urban area.

⁴ Lofland, L. (1998). *The public realm: exploring the city's quintessential social territory*. New York: Walter de Gruyter; and, Beauregard, R. (2008). *Making an Inclusive Urbanism: New York City's World Trade Memorial*. In *A city of one's own : Blurring the boundaries between private and public*. Body-Gendrot, S.; Carre, J; and Garbaye, R (Eds). Aldershot, England; Burlington, VT: Ashgate.

⁵ Varna, G. and Tiesdell, S. (2010). Assessing the Publicness of Public Space: The Star Model of Publicness, *Journal of Urban Design*, 15: 4, 575 — 598.

⁶ Kohn, M., (2004). *Brave new neighborhoods : The privatization of public space*. New York: Routledge.

⁷ Lofland, L. (1998). *The public realm: exploring the city's quintessential social territory*. New York: Walter de Gruyter. Lofland, 1998.

The literature places a lot of emphasis on the social capital of UOS; however, the economic and environmental considerations are perhaps more definitive ways for cities to place monetary value on UOS. The economic benefits include increased tourism, such as Chicago's Millennium Park; increased property values, such as New York Central Park; and direct use value, (i.e. what the users otherwise would have to pay for a similar experience).⁸ Likewise the environmental benefits include reduced expenditures on storm water management, (by reducing the impervious pavement); air pollution mitigation; and reduced medical costs due to environmentally related health problems (such as asthma).⁹ Together the social, economic, and environmental benefits help establish a case for the need for open space.

How Much Open Space is Needed?

The value of public urban open spaces described above, however, has not necessarily led to the development of an adequate supply of such places. According to The Trust for Public Lands the amount of open space varies city-to-city, "Some cities have plenty of parkland that is well distributed around town; others have enough land but an inequitable distribution; others are short of even a basic amount of park space for their citizens."¹⁰

There are several estimates or "rules of thumb" for determining the need of open space for a city. The first quick estimate is that there should be a certain number of acres per resident. For example the city of Austin's parkland dedication requirement stipulates 5 additional acres per 1000 new people residing in the area. In 2009, according to research by The Trust for Public Land, the total parkland per 1,000 residents for low population density cities, including Durham, averaged 96.4 acres, with a median of 21.3 acres.¹¹ Durham itself was below these averages with 10.5 acres of parkland per 1,000 residents. However, such crude estimates do not address the distribution of the space. The second "rule of thumb" often used, especially for determining the need for parks, is based on proximity to neighborhoods. The common rule is that there should be an open space

⁸ Walker, C. (2004). *The Public Value of Urban Parks*. Washington, DC: Urban Institute. Retrieved January 2011 from <http://www.wallacefoundation.org/SiteCollectionDocuments/WF/Knowledge%20Center/Attachments/PDF/ThePublicValueofUrbanParks.pdf>; and,

The Trust for Public Land, (2010). *The Economic Benefits of the Park and Recreation System of Mecklenburg County, North Carolina*. Retrieved January 2011 from http://www.tpl.org/content_documents/ccpe_Mecklenburg_county-report1.pdf.

⁹ The Trust for Public Land, 2010.

¹⁰ The Trust for Public Lands. (2011). *City Park Facts*. Available at Retrieved January 2011 from http://www.tpl.org/tier3_cd.cfm?content_item_id=20531&folder_id=3208.

¹¹ Ibid.

within walking distance from every resident, not more than a quarter mile as that is considered the maximum average distance people are willing to walk.¹²

Research has quantified the health benefits of proximity and access to open space in terms of improved overall health, increased physical activity and exercise, decreased risk for obesity, and reduced mental stress.¹³ Therefore planning for adequate open space is important for cities. The benchmarks discussed above can be useful for identifying the needs for open space, comparing UOS city-to-city, and measuring the quality of life for all residents and the equality between residents in the same city.

Provisioning and Use of Urban Open Space

The increased development of privately owned publically accessible spaces, Business Improvement Districts (BIDs) that manage urban spaces, and consumption-based environments present both challenges and opportunities for city governments. On one hand, cities can harness these private efforts to improve city amenities over and above what is possible through the public sector. On the other hand, cities must ensure that privately owned publically accessible spaces are meaningful and useful spaces and uphold the values and rights of users. With these considerations, we address the following questions: 1) Does it matter who provides UOS? and 2) What elements determine how open space is or is not used?

The Private Provision of Urban Open Space

Although it is common to think of urban open space as a product of government, the creation of urban public space has an interesting and varied history. Non-government initiatives are not a new influence on the development of urban areas and the public good.¹⁴ Historically, private individuals and philanthropic organizations have often been the driving forces for urban change and UOS development (i.e. the American Horticulture Society).

Over the past 60 years, the supply and use of urban open space has in large part been impacted by trends in suburbanization in the U.S. According to the Urban Designer, Stephen Carr, and colleagues, “As middle-class and working-class people have moved to the suburbs where they have private outdoor spaces, their way of living and use of public space

¹² The Trust for Public Lands. (2006). The Health Benefits of Parks. Retrieved March 2011 from http://cloud.tpl.org/pubs/benefits_HealthBenefitsReport.pdf.

¹³ Ibid.

¹⁴ Body-Gendrot, S.; Carre, J; and Garbaye, R (Eds). (2008). A city of one's own: Blurring the boundaries between private and public. Aldershot, England; Burlington, VT: Ashgate.

has changed.”¹⁵ With the decline of many downtowns and the loss of the residential base to the suburbs, these urban open spaces lost their position as the center of “communal life.”¹⁶ Instead, new places have emerged that met the demands of specific groups and users. Researchers Stephan Schmidt and Jeremy Nemeth, point to three trends that have changed how public space is provided today: 1) privatization in the provision and management of public space, 2) securitization of public space, and 3) the increase in consumption-based environments.¹⁷ Furthermore, the profound growth mentality of U.S. cities, which are struggling to compete in an ever increasing global economy, has in part accelerated these trends.¹⁸ These three trends provide a useful framework for further discussion on how the private provision of open spaces impacts the values and rules of these publically accessible spaces.

The first trend is the increasing privatization in the provision and management of public open space. Many cities recognize the importance of open space, but in the face of budget constraints, they seek ways to encourage the private or non-profit sectors to provide it for the public. Private ownership of open space also has important long term economic implications for cities as it can relieve the city of many ongoing responsibilities, such as policing and maintaining the space.

This trend is illustrated by the common practice of incentivized zoning, in which developers are enticed with inducements, such as density bonuses, to build open space. The development of privately owned public space (POPS) as they are called in New York City, began to appear in the city following the 1961 city code, which first allowed for density bonuses to be used in exchange for the provision of public space.¹⁹ POPS, by ownership and design often cater to the office workers in the buildings to which they are attached and thus often have a different feel and usage than publically owned open spaces.

From a user’s point of view, the UOS design and activities of such places may be more important than whether it is privately or publically owned. The design quality of privately owned public spaces has been criticized for not achieving the same outcomes as publically owned spaces.²⁰ Without proper mechanisms to control the design of privately owned open places cities are left with varying levels of open space quality. However, codifying “high-quality” design into a city ordinance proves to be difficult since, by nature it cannot be a cookie-cutter approach. While many public spaces are well used, far too many are

¹⁵ Carr, S., Francis, M., Rivlin, L., and Stone, A. (1992). *Public Space*. New York: Cambridge University Press. p. 5

¹⁶ Carr et al, 1992.

¹⁷ Schmidt, S. and Németh, J. (2010). *Space, Place and the City: Emerging Research on Public Space Design and Planning*. *Journal of Urban Design*, 15:4, 453 – 457.

¹⁸ Ibid.

¹⁹ Kayden, J. S. (2000). *Privately owned public space: The New York City experience*. New York: John Wiley.

²⁰ Ibid; and Staeheli, L. and Mitchell, D. (2008). *The People’s Property? Power, Politics, and the Public*. New York: Routledge.

hidden from the public or are vast expanses of desolate concrete space.²¹ These criticisms are especially pertinent to a cost/benefit analysis of private development, where the cost is the incentive to a developer and the benefit of the open space provided.

The second trend is the increasing securitization of public space. It is in large part due to the perceived need of cities and/or downtown real estate owners to project a safe environment for business activity. The emergence of BIDs has resulted in a shared responsibility for the upkeep and security between the local authorities and privately operating agents of the BID. Giving control over downtown public spaces, such as sidewalks, to the private business owners raises concerns about the power of private interest to regulate public use in the name of economic competitiveness.²² In particular, advocates for the homeless criticize that BIDs often limit the use of the downtown sidewalks from “undesirables” through passive and active security measures such as intimidation or regulations prohibiting sitting on the sidewalk.²³ Even in places that are privately owned but fully accessible, there is often insufficient means for monitoring and enforcement by the city to ensure the protection of public access and use.²⁴

This trend also raises the issue of the balance between protecting free speech and private property rights. Some argue that privately owned open space should function as traditional public space and thus should uphold the right of free speech. There is legal precedent and distinction established between what activities can or cannot be restricted on privately owned publically accessible space versus true public space.²⁵ Still however, the boundary is blurry between the public and private rights as illustrated through the continuing legal battles over rights to freedom of speech in suburban shopping malls.

The third trend is the emergence of consumption-based environments. A recent example from North Carolina of seemingly public space demonstrates the impacts that open spaces, provided for consumption purposes, can have. Though often hailed as the Town of Carrboro’s front porch, the Weaver Street Commons recently confirmed its primary function as a place for consumption and not a true public space by restricting unauthorized performances on the lawn.²⁶ The focus on commercial activity has also been criticized for

²¹ Kayden, 2000.

²² Loukaitou-Sideris A. and Ehrenfeucht, R. (2009). Sidewalks: Conflict and negotiation over public space. Cambridge, Massachusetts: MIT Press..

²³ Mitchell, D. (2003). The Right to the City: Social justice and the fight for public space. New York: The Guilford Press.

²⁴ Kayden, 2000

²⁵ Staeheli and Mitchell, 2008.

²⁶ Citizen Will. (2010). Weaver Street Market Lawn. Retrieved October 2010 from <http://www.citizenwill.org/owl/weaverstreetmktlawn/>.

the “disneyfication” of space or an idealized recreation of the past.²⁷ Such places, including many popular festival marketplaces and waterfront megaprojects are based on the notions of entertainment and consumer culture, which have little connection to the history or local culture of the area. Private entities with a financial interest often have a strong incentive for creating consumption based environments while the public interest is to ensure that all people have opportunity to enjoy the open spaces and are not limited by financial barriers.

The changes to the way public space is provided today have important implications for cities. The growing trend of public-private partnerships has been applauded for making open space available where otherwise it would not be. On the other hand, privately owned publically accessible open spaces have been criticized for their failure to meet the needs of the general public in part due to design and intended uses and restrictive features that contradict the ideals of public space. Additionally, city’s efforts to trade-off incentives for the new development of privately owned open spaces have been questioned. Such concerns substantiate the call for additional oversight and evaluation to ensure the spaces are built as planned and are publically accessible.

Evaluating Urban Open Space

Post-occupancy evaluation (POE) is critical for understanding and addressing user needs for open space.²⁸ There are different levels of POE, from a simple informal assessment of the aesthetics of a place to the formal systematic evaluation based on the function and use of an open space. A formal systematic evaluation would consist of observations and identification of the overall site, users, subareas and their functions, administrative information, behavior traces. In addition, activity mapping and user interviews would be used to collect data. Then, analytical steps such as data summary and use analyses would be performed to define problems and recommendations. The POE approach can be used to evaluate both privately owned and publically owned open space.

In addition, there are two approaches to POE specifically used to assess and evaluate privately owned urban open space: 1) the New York model, and 2) the Star-Model. The New York model is based on the place-by-place analysis of every privately owned public space (POPS) in New York City with the aim of creating a “comprehensive, centralized record setting forth basic information and legal requirements for every privately owned

²⁷ Sorkin, M. (1992). *Variations on a Theme Park: The new American city and the end of public space*. New York: The Noonday Press.

²⁸ Marcus, C. C., and Francis, C. (1998;). *Post-Occupancy Evaluation*. In *People Places: Design Guidelines for Urban Open Space*. Marcus, C. C., and Francis, C. (Eds). New York: Van Nostrand Reinhold; And; Francis, M. (2003). *Urban open space: Designing for user needs*. Washington: Island Press.

public space in the city.” The analysis was a joint project of Jerold Kayden, the New York City Department of City Planning and the Municipal Art Society of New York. The goal was to make basic information about POPS information available to the public at-large with the hope that publicizing such information will help enforce regulations and increase usage of the space.²⁹ The New York assessment pays particular attention to the zoning provisions added in 1975 that are credited with improving the aesthetics of POPS. These regulations are largely due to the seminal work of William Whyte. Through intensive observation of public spaces in New York City, Whyte set design guidelines for creating good public space, such as seating and landscaping.³⁰

Varna and Tiesdell developed the Star Model for determining the publicness of space.³¹ They define publicness as both a conceptual and practical matter, concerning both how public space is viewed (e.g. sense of place) and the actual production (e.g. location). They define five dimensions that constitute publicness: ownership, control, civility, physical configuration, and animation. Ownership, as discussed above, refers to the legal status of a place (i.e. public or private). Control and civility refer to how a place is managed, what level of policing and level of care, respectively. Physical configuration refers to the macro design of the place and can be considered in terms of three qualities: 1) centrality and connectivity, 2) visual access, and 3) thresholds and gateways. Animation refers to the micro design of the place and can be described as passive engagement, active engagement, and discovery and display.

The Star Model uses a system of indicators to quantify the dimensions of publicness. It then translates these numeric computations into a star figured image. The shape of the star is determined by the level of publicness on each of these five dimensions thus giving a clear picture of places and creating an easy system of comparison between places.

POE is useful for evaluating both privately and publically owned open space. Such evaluations can help inform what makes UOS successful or not. For the purposes of this case study they can also serve to produce best practices for the planning of UOS.

The project’s overall goal is to evaluate how urban open space efforts are being carried out in selected U.S. cities, understand the outcomes of these efforts, and draw lessons from these cities’ experiences. With this goal in mind, two questions guided the research:

- 1) How is the private provisioning of publicly accessible urban open space occurring in cities and what lessons can be learned to improve the process and outcomes?
- 2) How is quality urban open space developed, funded, codified, measured, and maintained?

²⁹ Kayden, 2000.

³⁰ Whyte, W. (1980). *The Social Life of Small Urban Places*. Washington, D.C.: The Conservation Foundation.

³¹ Varna and Tiesdell, 2010.

Methodology

The research framework used for this project is an exploratory case study analysis conducted on the urban open space planning efforts of eight U.S. cities. According to Yin, case study research with multiple cases can be advantageous as a research method as it can be used to draw “cross-case” conclusions.³²

Case Study Sampling

A list of cities for the case study analysis was developed based on conversations with staff members from the Durham Urban Open Space planning effort and an initial examination of the literature on urban open space. Twenty three potential cities were identified for the case study sample. This included 10 “bench mark cities” that the city of Durham frequently uses for comparisons.³³

Rationale for Site Selection

Current local engagement in urban open space efforts were obviously critical to exploring how cities plan and carry-out such initiatives. Thus, each city’s planning documents related to open spaces were an important factor for choosing the comparison cities. These documents included comprehensive plans, open space plans, downtown or central city plans, and parks and recreation plans. Preference was given to cities that discussed open space provisioning in the urban core of the city as opposed to just the rural areas or agricultural lands.

City-to-city comparability to Durham was also an important factor for drawing lessons that are applicable to Durham. Given that Durham is moving to a system of form-based codes, this was included as one criterion for selection. Second, because central Durham does not have any natural water features, preference was given to non-waterfront cities. Similarly preference was given to those cities with similar temperate climates to Durham. This criterion was included as the demand and usage of open space, especially outdoor open space, can vary significantly due to the temperature, precipitation, and other factors relating to weather.

³² Yin, R. K. (2003). *Case Study Research: Design and Methods*. Thousand Oaks, CA: Sage Publications, p. 20.

³³ The 10 “bench mark cities” are: Augusta, GA; Baton Rouge, LA; Greensboro, NC; Little Rock, AR; Montgomery, AL; Norfolk, VA; Raleigh, NC; Richmond, VA; Shreveport, LA; and Winston-Salem, NC (Durham Planning Department, personal communication January 6, 2011). The 13 other cities on the potential list were: Asheville, NC; Austin, TX; Buffalo, NY; Charlotte, NC; Charleston, SC; Charlottesville, VA; Pittsburgh, PA; Miami, FL; San Antonio, TX; San Francisco, CA; Seattle, WA; Toledo, Canada; and West New York, NJ.

The final list of cities chosen for the case study is as follows:

- Austin, TX;
- Charlotte, NC;
- Charleston, SC;
- Greenville, NC;
- Montgomery, AL;
- Norfolk, VA;
- San Francisco, CA; and
- Shreveport, LA.

Data Collection and Analysis

The research gathered and analyzed both primary and secondary data. Data collection on the cases was accomplished through two methods, 1) focused interviews with key stakeholders, and 2) compilation and in-depth analysis of planning documents, city ordinances, and other background information.

Focused Interviews

The University of North Carolina, Chapel Hill's Internal Review Board (IRB) reviewed the project proposal and declared the interview research exempt as posing no possible harm to human subjects. Despite the exempt status, the research still sought consent from interviewees (see Appendix A).

Interview Guide Development

As part of the IRB process an interview guide was developed. The guide was meant to give direction to the interviews and provide consistency between the interviews. The interview questions were developed to cover five themes regarding urban open space: 1) planning, 2) private development, 3) design guidelines, 4) operations and maintenance, and 5) funding, (see Appendix B).

Interviewee Selection

Focused interviews were conducted with key open space stakeholders (see Acknowledgments) including staff from planning departments, parks and recreation departments, downtown development organizations, and open space programs. The initial interview contacts were identified from recommendations from the Durham Planning Staff or through the cities' public web sites. The snowballing method, asking interviewees for suggestions of additional stakeholders, was then used to identify additional contacts. Two or more focused stakeholder interviews were completed for each of the following cities: Austin, Charleston, Greensboro, and Norfolk. One focused stakeholder interview was completed for each of the following cities: Charlotte, Shreveport, and San Francisco. Staff contacted in Montgomery did not respond to the request for an interview. In total, 13 people were interviewed.

Prior to the interviews the stakeholders were given the series of broad questions developed in the interview guide. However, the interviews were also tailored to the individual city to collect information on specific urban open space projects and the personal experiences of the stakeholder. Each interview was conducted over the phone and the average interview was approximately 45 minutes long.

Planning Documents, City Ordinances, and Other Background Information

Planning documents from each case study city were compiled, synthesized and analyzed. Documents were analyzed by examining a series of items, including how it relates to other plans for the city and how it compares to plans for other cities. In-depth examination of the documents included identifying its overall purpose, parties involved, inclusion of urban open space goals, mechanisms for achieving those goals, detailed action steps, and evaluation plans.

Analysis of Open Space Plans and Practices

The following section discusses factors related to open space based on the review of open space plans and practices from the case study cities. The section is divided into six subsections based on the following themes: 1) typologies, 2) vision statements, 3) private development and management, 4) design guidelines, 5) operations and maintenance, and 6) funding.

Typologies of Urban Open Space

There are many types of UOS, from expansive civic parks that are often the location for events and festivals, to small sitting areas tucked in-between buildings. Having a variety of different types of spaces in a downtown is important because each space can best accommodate various users and particular activities. For example, a group of two to four people will be more comfortable using a small sitting area than an expansive civic park, which would feel desolate with so few people. Defining the UOS typologies can be useful for determining if there is a sufficient mix of types of places in an area.

The Austin, TX plan and the San Francisco, CA plan specify typologies of open space to help guide the planning process. Below are several definitions of UOS compiled from these two cities. For the full list of categories and descriptions of San Francisco UOSs please see the San Francisco General Plan.³⁴

City-Wide Parks: They are characterized by large, flat and open expanses of land that can accommodate events and celebrations that attract people living in all parts of the city (see Image 1).

Linear Greenways: They are characterized by pathways that provide recreational, health and social opportunities, as well as bike and pedestrian transportation linkages into and around downtown. They are the “lungs” of the city and serve to connect people to nature.

Image 1: Center City Park, Greensboro, NC



Source: Joe Solar and Action Greensboro Staff

³⁴ Available at http://www.sf-planning.org/ftp/General_Plan/images/downtown/TABLE1.HTM. For a broader list of typologies please see Francis, 2003.

Downtown Neighborhood Parks: They are more family-focused, with playgrounds, picnicking, swimming, tennis or basketball, as well as un-programmed open space areas which provide recreational opportunities for a neighborhood.

Public Sitting Area in a Pedestrian Walkway: They are sitting areas on a sidewalk of a pedestrian-oriented street or in an exclusive pedestrian walkway which provide an area for resting and/or people-watching.

Non-Permanent Green Spaces: They are portions of unused streets and public rights-of-way that are quickly and inexpensively turned into new public plazas and parks for a temporarily period of time in order to provide some open space and often additional outdoor seating (see Image 2).

Image 2: Non-Permanent Green Space, San Francisco, CA



Source: Pavement to Parks

Plaza: They are primarily hard-surface spaces which often provide retail space, often food service, in a portion of the area, and function as a place to gather or sit outside.

In addition to these categories of UOS, many of the cities surveyed were undergoing “complete streets” or streetscaping projects to enhance the aesthetics of the pedestrian right of way. These projects were seen as a primary element to connecting open spaces throughout the city. According to Chad Morris, Division Head of Open Space Planning and Development at the City of Norfolk, having more open spaces that are isolated and only accessible by car will not improve the quality of life, what is needed is an enjoyable experience getting from place A to place B (personal communication, March 2011).

Urban Open Space Vision Statements

Core to the planning for UOS is defining what exactly the term “open space” means for the city and articulating a common vision. Establishing a shared vision between open space stakeholders can help guide the planning and development and create ownership of the spaces. Below are excerpts from case study city plans that demonstrated the vision for UOS.

Montgomery, AL:

“Small, urban parks should be included in Downtown neighborhoods. Neighborhood parks should be connected with walking/biking trails, connecting green spaces with the larger riverfront park.”

Downtown Montgomery Plan

Shreveport, LA:

“Downtown green space is a desired economic and quality of life amenity. Pedestrian friendly corridors should be used to connect the downtown to the Riverfront Park,” (see Image 3).

Downtown 2010 Redevelopment Strategy

Image 3: Waterfront Park, Shreveport, LA



Source: Halverson Design³⁵

Charlotte, NC:

“Tie neighborhoods together through the development of Center City open spaces and their connections to regional parks.”

2010 Center City Vision Plan

Greensboro, NC:

“Center City Park was conceived as a series of outdoor rooms that are comfortable and functional for large scale events as well as for small groups and individuals to relax and socialize,” (see Image 4).

Center City Park

Image 4: Center City Park, Greensboro, NC



Source: Joe Solar and Action Greensboro Staff

³⁵ Halverson Design (n.d.) Featured Projects. Retrieved February 2010 from <http://www.halvorsondesign.com/practice/#>.

There is a common thread of two elements of urban open space found in many of the vision statements of the cities studied. The first element described can be thought of as the anchor locations; these are the ***urban parks, city squares, and civic plazas*** and so forth that are the primary places when thinking about a downtown open space. The second common element is the ***trail systems and green, pedestrian-friendly streets*** that connect the anchor locations and other destinations. While there are common threads to open space visions it is also important that the vision speaks to the unique character and needs of the location.

Private Development and Management of Urban Open Space

Private development and management of UOS has been a critical component for cities to increase and maintain their open spaces. This is in part due to public finance constraints on local governments and the fact that they are often unable or unwilling to take on higher maintenance open space features such as fountains due to concerns about future funding. In the words of Chris Wilson, Division Manager at the Parks and Recreation Department in Greensboro, “This economy demands that we work together,” (personal communication, March, 2011).

Recognizing the need for open space and the public sector limitations, two means for increasing and/or improving UOSs were used in the cities surveyed: 1) private-public partnerships, and 2) private development to meet city requirements.

Public-Private Partnerships and Urban Space Development

The private and non-profit sectors have played an important role in UOS development in several case study cities. In the case of Greensboro, non-profits led the charge for developing downtown open space. In other cases, such as Austin, San Francisco, and Norfolk, private entities have been critical for funding upgrades and on-going management of the spaces.

Image 5: Center City Park, Greensboro, NC



Source: Joe Solar and Action Greensboro Staff

Greensboro

Greensboro's site-specific plan and development for Center City Park was led primarily by two non-profit organizations that identified the need for a large civic space in the downtown (see Image 5). "Action Greensboro and Downtown Greensboro, Inc. were the catalyst for developing the park, though the city was doing a lot of planning for downtown economic revitalization," explains Chris Wilson, Division Manager with the Greensboro Parks and Recreation Department. According to the park's website, the project cost more than \$12 million to build, with land acquisition accounting for \$6 million and design and construction adding \$5.5 million.³⁶ The park property is currently owned by the real estate divisions of two foundations connected to Action Greensboro, although the hope is that eventually the city will take ownership of the park (Dabney Sanders, personal communication, Feb. 2011).

Another site specific project underway in Greensboro is the Downtown Greenway, which is planned to encircle the downtown when complete (see Image 6). The Greenway is a collaborative effort led by Action Greensboro and the City along with many other partners. According to Chris Wilson with the Greensboro City Planning Department, "{The Greenway is} really cool because it could be a gateway to downtown from every community" (personal communication, March 2011).

Image 6: Downtown Greenway, Greensboro, NC



Source: Joe Solar and Action Greensboro Staff

Austin, TX

Austin is following the New York model of establishing conservancies to facilitate upgrades and ensure maintenance of its parks (Ricardo Soliz, personal communication, Feb. 2011). In New York, the Central Park Conservancy is the official manager of Central Park and is responsible for day-to-day maintenance and operations.³⁷ The Conservancy also provides the majority of the Park's budget through fundraising and investment revenue. However, the City Department of Parks and Recreation retains control over policy decisions, user and event permits in the Park. Following this model, the Waller Creek Conservancy, recently

³⁶ Center City Park. (n.d.). About. Retrieved December 2010 from <http://www.centercitypark.org/about/construction.php>.

³⁷ Central Park Conservancy. (2010). About. Retrieved February 2011 from <http://www.centralparknyc.org/about/>

started in Austin, will help to restore a channel through downtown and create useable open space along the water.

Norfolk, VA

In Norfolk, the private sector, including individuals and Fortune 500 companies, has for decades financially supported the programming of the city's major festival open space called Town Point Park. More recently, in 2008 the city of Norfolk and the private sector initiated a campaign for major park renovations in the park. According to the Norfolk Festevents Ltd, which manages the space, the total cost of the renovations was \$11.5 million and was funded through a combination of City of Norfolk funds and private sector funds raised through sponsorships and naming rights.³⁸ The park's facelift included two new fountains, newly designed green spaces, and additional seating areas (see Image 7).

Image 7: Town Point Park, Norfolk, VA



Source: Festevents³⁹

To overcome the criticisms discussed in the literature review of publically accessible yet privately developed, owned, or managed open space, there needs to be a foundation of shared values and philosophy regarding the space between the parties involved. Setting up successful public-private partnerships requires both close collaboration, as well as formal contracts between parties to establish and execute the shared philosophy. For instance, if the public interest is for community participation in the planning, unrestricted public access, and so forth, these items can and should be clearly spelled out in a contract between the parties involved. In Greensboro, there are many examples of public-private partnerships in which the shared vision is ensured through contract stipulations such as the city retaining the right to refute and dictate pricing or the city retaining the right to excuse the private entity's staff members for violations of the shared philosophy (Wilson, personal communication, March 2011).

³⁸ Festevents. (2011). Town Point Park. Retrieved February 2011 from <http://www.festevents.org/mini-site/turning-point-park-project/the-turning-point-project>.

³⁹ Festevents. (2011). Town Point Park. Retrieved February 2011 from <http://www.festevents.org/mini-site/town-point-park>.

Minimum Open Space Requirements in City Code

Charlotte and San Francisco are two cities surveyed that set minimum requirements for the provision of open space in their city code. Both cities originally adopted these open space requirements in 1985 for new large commercial office buildings due to concerns about rapid development in the urban core and the lack of public amenities (Dan Thilo, personal communication, Feb. 2011).⁴⁰ Charlotte and San Francisco city codes set standards for the amount of space that must be dedicated and for the amenities required in the spaces, such as seating, which is discussed in the following section.

Charlotte

Charlotte's minimum open space requirements apply only to new office uses with a gross floor area greater than 20,000 square feet in the Uptown Mixed Use District, which as defined in the city ordinance is the "the high density core of the central area...(that) permits and encourages the coordinated development of retail and wholesale trade" such as office towers and high-density residential development (see

Table 1).⁴¹

Table 1: Charlotte Open Space Required for New Office Buildings with a Gross Floor Area Greater Than 20,000 Square Feet.

Lot Size (Square Feet)	Open Space Required (1 sq. ft./gross sq. ft. of floor area for office use)
0—20,000	1 square foot/200
20,001—40,000	1 square foot/150
above 40,000	1 square foot/100

Source: Charlotte City Code ⁴²

⁴⁰ San Francisco Planning and Urban Research Association (SPUR). (2008). Secrets of San Francisco: Our city's privately owned public open spaces. Retrieved February 2011

http://www.spur.org/publications/library/report/secretsofsanfrancisco_010109.

⁴¹ Charlotte, North Carolina, Municipal Code § 9.901 (2010). Retrieved January 2011 from <http://library.municode.com/index.aspx?clientId=19970&stateId=33&stateName=North%20Carolina>.

⁴² Charlotte, North Carolina, Municipal Code § 9.904 (2010). Retrieved January 2011 from <http://library.municode.com/index.aspx?clientId=19970&stateId=33&stateName=North%20Carolina>.

One example from Charlotte of urban open space built under this requirement is “The Green Plaza” which is part of the Bank of America Corporate Center in downtown. The Green, as the name implies includes a grassy lawn and is framed between the mid- and high-rise buildings with tasteful landscaping (see Image 8). The Green caters to the office-worker lunch time crowd; however there are also programmed events for the residents and tourist. For example, in the winter months the Green is home to an outdoor ice skating rink.⁴³

Image 8: The Green Plaza Uptown, Charlotte, NC



Source: The Green Plaza Uptown⁴⁴

Dan Thilo, Urban Design Program Manager with the Charlotte-Mecklenburg Planning Department expects that by 2020 Charlotte will require additional types of developments, such as residential, hotels, or other entertainment oriented developments to also meet minimum UOS requirements (personal communication, Feb. 2011).

San Francisco

San Francisco’s minimum open space requirement applies to construction of a new building or of an addition of gross floor area that is 20 percent or more of an existing building (see Table 2).⁴⁵ However exemptions are made for residential, institutional, and predominately retail uses making it similar to Charlotte in that it primarily applies to new commercial office buildings.

⁴³ WBT (2011). “Holiday on Ice.” Retrieved March 2011 from <http://www.wbt.com/wbtholidayonice/index.aspx>.

⁴⁴ The Green Plaza Uptown. (n.d.). About. Retrieved January 2010 from <http://www.thegreenuptown.com>.

⁴⁵ San Francisco, California, Planning Code, Article 1.2, Sec 138. Retrieved January 2011 from <http://library.municode.com/index.aspx?clientId=14300&stateid=9&statename=San%20Francisco%20CA%20Suite%20of%20Codes&stateMode=true>.

Table 2: San Francisco Minimum Open Space Requirements for Downtown Districts

Use District	Ratio of Square Feet of Open
	Space to Gross Square Feet of Uses with Open Space Requirement
C-3-O	1:50
C-3-R	1:100
C-3-G	1:50
C-3-S	1:50
C-3-O (SD)	1:50

Source: San Francisco Code⁴⁶

According to a 2008 report by the San Francisco Planning and Urban Research Association (SPUR), there were 45 Privately Owned Public Spaces (POPS) created before the adoption of the 1985 Downtown Plan, however many of these were very small spaces.⁴⁷ SPUR also reports that since 1985, 23 POPS have been created including 5 plazas (see Image 9). Like Charlotte, San Francisco is also considering expanding the open space requirements to include more land uses such as residential development (Sue Exline, personal communication, March 2011).

As seen in these two case studies, cities' minimum open space provision requirements can be a successful way to increase the development of UOS and "manage growth in a positive way" (Dan Thilo, personal communication, Feb. 2011). However, for many of the smaller case study cities the economic interest in attracting new large firms and development in the downtown supersedes the interest in minimum open space requirements. Never-the-less, smaller sized cities that can balance the economic interests and quality of life amenities such as UOS will be well poised to attract and retain business in the future.

Image 9: POPS, San Francisco, CA

Source: Jennifer Miller

⁴⁶ San Francisco, California, Planning Code, Article 1.2, Sec 138

⁴⁷ SPUR, 2008.

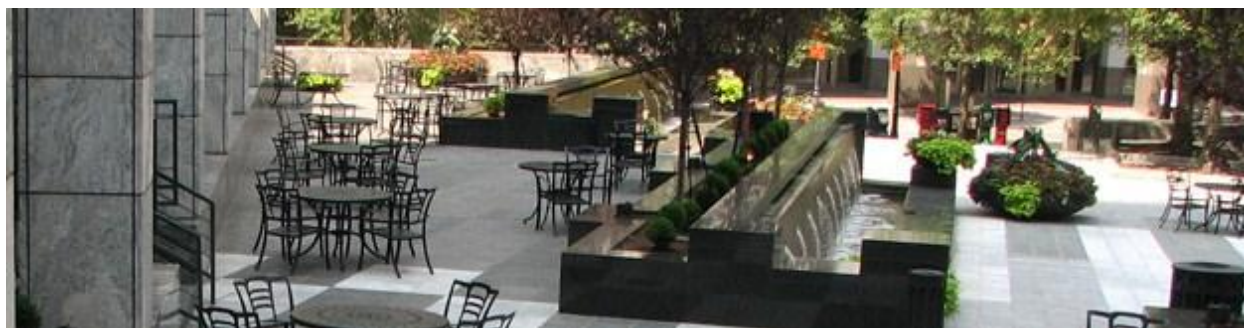
Design Guidelines and Standards

Designing quality UOS is perhaps more important and more difficult than expected. In the words of legendary urban planner William Whyte, “It is hard to design a space that will not attract people. What is remarkable is how often this has been accomplished.”⁴⁸ More specifically, as found in the case studies, each city surveyed had at least one, if not multiple well designed spaces, but each city was also challenged by some poor quality spaces. Thus the question is, how can a city set standards across the board for design quality? Two methods emerged from the case study cities for how to set design guidelines or standards: 1) via the city code, or 2) through the design review process.

Minimum Open Space Design Requirements in City Code

Three cities surveyed include open space design guidelines in their in their city code: Charlotte, Norfolk, and San Francisco. Charlotte and San Francisco’s guidelines are part of the minimum provision of open space requirements discussed above. Norfolk’s city code sets “*Landscaping standards for open space amenities*” although it does not require the provisioning of additional public open spaces.

Image 10: Privately Owned Public Space, The Plaza Uptown, Charlotte, NC



Source: The Plaza Uptown.⁴⁹

Charlotte

The minimum open space requirements have been successful at creating UOSs for Charlotte and San Francisco although perhaps with different user outcomes. Dan Thilo, Urban Design Program Manager with the Charlotte-Mecklenburg Planning Department, believes the code has worked well to create useable spaces, “These places get used, we haven’t required any that don’t get used,” (see Image 10, Feb. 2011). While there is neither a formal public assessment of the use and quality, nor a publically accessible compilation of these spaces Thilo concludes that none have been done because “we get positive feedback all the time,” (personal communication, Feb. 2011).

⁴⁸ As cited in Francis (2003).

⁴⁹ The Plaza Uptown. (n.d.). Retrieved January 2011 from <http://www.theplazaupdown.com>.

Creating Useable Space, Charlotte Urban Open Space Requirements

Purpose: Provide areas for public congregation and recreational opportunities.

Applies to: new office uses with a gross floor area greater than 20,000 square feet in the Uptown Mixed Use District

Enclosed Spaces: 30 percent may be provided on an enclosed ground floor level.

Street Access: 85% of the total urban open space must be accessible to and visible from the street. May not be more than 3 feet elevated or sunk.

Provision for the disabled: Must conform to the North Carolina State Building Code (disabled section), and the American Disabilities Act (ADA).

Seating:

- At least 1 linear foot of seating for each 30 square feet of open space.
- 25% must be permanent.
- 16 to 24 inches high.
- Minimum depth of 15 inches.

Trees:

- 1 tree must be planted for each 500 sq. ft. or portion thereof up to 2,000 sq. ft.
- Over 2,000 sq. ft., 1 additional tree is required for each additional 1,000 sq. ft.
- Over 20,000 sq. ft., 1 additional tree is required for each additional 2,000 sq. ft.

Food:

- The provision of food facilities is encouraged but not required.
- Food kiosks count as open space provided they do not exceed 150 sq. ft. in area.
- No more than ½ of the open space may be used for an open-air cafe.

Amenities Permitted: ornamental fountains, stairways, waterfalls, sculptures, arbors, trellises, planted beds, drinking fountains, clock pedestals, public telephones, awnings, canopies, and similar structures.

Maintenance Responsibility: The building owner, lessee, management entity, or authorized agent are responsible for the maintenance.

Source: Charlotte, North Carolina, Municipal Code § 9.901 (2010). Please see Appendix C for the full Charlotte code pertaining to UOS.

San Francisco

In San Francisco, organized efforts by two non-profit organizations, San Francisco Planning and Urban Research Association (SPUR) and Rebar, are underway to improve existing and future Privately Owned Public Spaces (POPS), as they are called (see Image 11).⁵⁰ Sue Exline, Citywide Policy Planner with the San Francisco Planning Department, explains some of the concerns with the current guidelines, “Tree requirements are minimal or almost non-existent. {POPS}...need more landscaping and park-like amenities,” (personal communication, March 2011). In addition to being primarily hardscape surfaces, many of these spaces are only used by the office workers in the surrounding buildings by the way they are designed. Exline illustrated this issue with the example of a roof-top sun deck, “If you have to walk into the building past the security guard, who will probably ask you what you are doing, to take the elevator to get to the roof, you probably won’t do it,” (personal communication, March 2011). Efforts to improve upon these current spaces and expand the guidelines for the future have the potential to ensure useable green spaces that are activated outside the 9 to 5 o’clock work hours and perhaps deal with the exclusionary nature of certain types of open spaces such as rooftops.

Please see Appendix D for the San Francisco code regarding UOS.

Image 11: Zellerbach Plaza, San Francisco, CA



Source: SPUR, Secrets of San Francisco

⁵⁰ More information can be found on these organizations at the following websites: SPUR http://www.spur.org/publications/library/report/secretsofsanfrancisco_010109, Rebar <http://www.rebargroup.org/>.

Norfolk Landscaping Standards for Open Space Amenities

Open space. The term open space shall be construed to consist of open space amenities and spacing between buildings. Open space amenities include plazas, esplanades, landscaped areas, pools or other water features, arcades, and the like designed and maintained for use by pedestrians and open to the public. Such open space amenities shall not be open to vehicular use and should be directly accessible from street level. Where feasible, open space shall be designed to serve as part of a coordinated pedestrian circulation system.

Landscaping standards for open space amenities.

One tree (2½ to 3½ inches caliper at the time of planting, or an alternative size approved by the department of parks and recreation and the planning commission) for every 500 square feet of required open space to be located in the open space.

A minimum of 25 linear feet of seating for every 1,000 square feet of required open space which shall be more than 12 inches and less than 30 inches in height and not less than 16 inches in depth. Seating which is more than 28 inches in depth and accessible from two sides shall count double. Movable chairs shall count as 2½ linear feet.

A minimum of ¼ of the required open space shall be provided as water or landscaped with groundcover, shrubs, or flowers.

Source: Norfolk, Virginia, Code of Ordinances, Appendix A, Article II. , Chapter 8. Available at: <http://library.municode.com/index.aspx?clientId=10121&stateId=46&stateName=Virginia>

Design Review Process

Many interviewees in the surveyed cities expressed that good design can be tough to define because it is on a site-by-site basis. The individual approach required makes it difficult to formulate into code and, therefore the design review process is a frequently used tool for influencing the quality of UOS for new developments.

Mandatory or Voluntary Design Review

The site-by-site analysis of development projects differs slightly between cities. The first consideration is how much of the approvals and permitting process require mandatory review, which gives more leverage for encouraging high quality open spaces. In Norfolk, the process of approvals includes a mandatory review by all the departments, including the parks and recreation department, which is attentive to the details of the open space (Dean Bowles and Chad Morris, personal communication, March 2011). Likewise, in Charleston the seasoned planning staff works with the developers through the approval process to design spaces that are quality and fit with the character of the area (Christopher Morgan,

Feb. 2011, personal communication). In Austin, however, because there is no mandatory design review process, the design review commission often relies on the “good will of developers” to create quality spaces, (Austin Planning Department staff, personal communication, Feb. 2011). The Austin Design Commission also has developed voluntary urban design guidelines including specifics on guidelines for plazas and open spaces. In Charlotte, the minimum requirements are outlined in the code (see above) and then additional amenities are encouraged through discussion during the review process. Charlotte has found that developers are eager to “raise the bar over one another” and thus are willing to include quality open space elements as long as they are not too costly, (Dan Thilo, personal communication, Feb. 2011). Thilo believes this is in large part because Charlotte has minimum open space standards required in the city code, and if a developer wants to opt-out of the minimum standards he or she must get the area rezoned, which can be a cumbersome process.

Staff or Resident Appointed Design Review Committee

A second consideration is the make-up of the design review committee. In some cities it is composed of staff from applicable city departments, while in other cities, the committee is comprised of residents who are appointed by the city council or other elected body. For example, in Norfolk the code stipulates the following:

The committee shall consist of seven (7) members who shall be appointed by the city council. Two (2) of the members shall be architects, one shall be an artist or member of the faculty of a fine arts division of a local college or university, one shall be a resident of a historic and cultural conservation district or a historic district listed on the registry of a local, state or national organization and having interest in or trained in the field of historic preservation; one shall be a professional engineer, one shall be a person engaged in a business or professional enterprise in the city, and one shall be a person having talent and interest in landscape design.⁵¹

Greensboro has both a staff review process, as well as a resident committee for reviewing downtown projects (see Image 12). The newly adopted downtown Greensboro Design Guidelines defines the make-up of the resident committee.

The Property Owners Review Team (PORT) will consist of 5 voting members and 3 advisory members who will be appointed by the City Council, serving staggered three year terms.

Voting Members

1 property owner from the Urban Residential Mixed Use character area,

1 property owner from the Historic Core character area,

⁵¹ City of Norfolk Code 1958, Chapter 32, Article 3, Division 1 §32-63. Retrieved March 2011 from <http://library.municode.com/index.aspx?clientId=10121&stateId=46&stateName=Virginia>.

*2 property owners from the Pedestrian Mixed Use character area,
1 representative from Downtown Greensboro Inc.'s Board, who is also a downtown property owner*

Advisors (Non-Voting Members)

2 representatives from the design community who have recently been involved with projects in Downtown (i.e. architect, landscape architect, engineer, urban and/ or landscape designer, historic preservationist, etc.),

1 Downtown Greensboro Inc. President or designee⁵²

All cities in the case study have or are moving to a form based code, recognizing the importance of design for users. This idea should also be applied to open spaces through the city code. Those cities without mandatory provisioning of UOS or for uses that are not included should still have design regulations for spaces that are voluntarily created to avoid well-intentioned failure.

Image 12: Center City Fountain, Greensboro, NC



Source: Joe Solar and Action Greensboro Staff

The design review process can also be a very powerful tool for creating quality UOS. Visionary, consistent and well-trained staff can ensure that new development of UOS is first rate. However, in order to be successful, the design review process should have some teeth with the developers; otherwise it can be a hypothetical exercise and a waste of time. Judging from the case study cities the best solution is for minimum design standards combined with a design review process where staff can work with developers to create unique, useable open spaces.

⁵² Downtown Greensboro Design Manual (2010). Process/Guidelines. Retrieved March 2010 from http://www.greensboro-nc.gov/NR/rdonlyres/7B435FEB-DECA-4137-BEAA-8EF8114AACBF/0/Adopted_DDO_Manual_Process_and_Guidlines_Sept_2010.pdf

Operations and Maintenance

Operations and maintenance are another key component to the success of urban open spaces. Operations include programmed activities and events while maintenance includes general upkeep, landscaping, minor repairs, etc. Austin and Greensboro are two cities that have aggressive approaches to these elements.

Austin

Austin's Open Space Element of the Downtown Plan indicates that lack of planned activities in some downtown open spaces have left these places to the sole use of people who are homeless (see Image 13).⁵³ Accordingly, the implementation strategy includes a strong focus on the funding for operations and maintenance going forward to make the park friendly for all users.

*Base O&M Funding for Downtown Parks. To achieve the Plan goals, the standard level of maintenance and programming should be raised for all downtown parks. This should be affected immediately, before undertaking any major capital investments in signature parks. If the level of care given to Austin's downtown parks and open spaces was enhanced to the level of national leaders in urban park systems, operations and maintenance costs for downtown Austin parks would need to increase from \$6,700 per downtown acre to between \$10,000 and \$20,000 per acre. This would result in a doubling or tripling of base funding for the downtown parks.*⁵⁴

Draft Downtown Parks and Open Space Element, Downtown Austin Plan

Image 13: Branch Square, Austin, TX



Source: Draft Downtown Parks and Open Space Element, Downtown Austin Plan

Austin has also created an operations and maintenance costing out template in order to ease the planning process and ensure a minimum level of maintenance for all new open spaces.

Austin has developed some unique ways to contract out maintenance with developers and property managers. This is often a win-win situation for both the city and the private company. For the city it is a win because it increases the level of maintenance for a particular area and takes these maintenance costs off the city's

⁵³ ROMA Austin and HR&A Advisors. (2010). Draft Downtown Parks and Open Space Element, Downtown Austin Plan, Retrieved December 2010 from ftp://ftp.ci.austin.tx.us/DowntownAustinPlan/dap_pos_1-19-10_report-appendix.pdf, p. 30.

⁵⁴ Ibid, p. 106.

responsibility. For a private company it is a win because it allows them to increase the amenities for their users and gives them a certain amount of control over the appearance of the area. Two examples of such cases are the Radisson Hotel and the Gables Project (Ricardo Soliz, personal communication, Feb. 2011). The Radisson Hotel wanted to put a deck on the back of the hotel facing the green belt trail, which is a public trail running through Austin. With an agreement from the city, they upgraded the amenities on this section of the green belt and also maintain that portion of the green belt. A second example is the Gables Project which is a residential high rise. There were 1.5 acres of parkland in front of the building that the developer gave to the city for public use, but retained control of the maintenance and improvements through an agreement with the city. Other examples of site-by-site maintenance agreements were found in other case study cities as well.

Greensboro

Programmed activities can help draw users to an open space and enliven the area, but this aspect can be overlooked when planning for a new downtown UOS. According to Dabney Sanders with Action Greensboro, “Activity and programming are necessary for success,” (personal communication, Feb. 2011). Planned events, both small and large, can help ensure that there is a mix of users in the space. This is one strategy that Greensboro is using to prevent the Center City Park from being primarily frequented by people who are homeless.

Urban open space plans should include specific and actionable maintenance and operations components. Following the Austin model, it may be helpful to create a template for the costs per acre for maintenance of different types of space so that expectations can be established well in advance of any new development. Additionally, spaces should be evaluated in order to understand and reevaluate the programming needs once it has been established.

Funding

Without funding, the vision for UOS is just an aspiration with no plan to be realized. Thus the financing strategy is paramount. Private development of UOS is one method for increasing and maintaining these special places. Case study cities surveyed also use additional tools, such as development fees and municipal bonds.

Development Fees

The Austin, TX city code requires that residential developments meet requirements for parkland dedication. While primarily pertaining to residential subdivisions, this regulation also mandates that developers of downtown high-density housing set aside land for park space, or contribute a fee-in-lieu to pay for parkland in the area (Austin Planning

Department staff, personal communication, Jan. 2011). Such requirements help fund the UOS in Austin and provide amenities to the residential users.

Municipal Bonds

One often used method for funding open space is through the sale of municipal bonds. Municipal bonds can be a good method for raising a large sum of money quickly and are often used to fund capital improvement projects. The bonds are then repaid over a long time span, perhaps 15 to 20 years. Greensboro recently passed a 134 million dollar bond for street improvement; 12 million dollars of which were dedicated for greenways and 7 million dollars of this are being used for the downtown greenway (see Image 14; Dabney Sanders, Feb. 2011, personal communication).

Image 14: Downtown Greenway Sign, Greensboro, NC



Source: Joe Solar and Action Greensboro Staff

As part of their county wide Comprehensive Greenbelt Plan, Charleston has developed an extensive list of strategies for funding green space. These strategies are divided into four categories: 1) Regulatory mechanisms, 2) Acquisition of green space, 3) Donation of green space, and 4) Management agreements for green space. Each opportunity requires a different strategy and thus this “tool box” also describes both the benefits and drawbacks of each.⁵⁵

⁵⁵ For the complete Green Space Toolbox please see the Comprehensive Greenbelt Plan available at <http://www.smallchangeformbigchange.org/greenbeltplan.html>.

Recommendations

Durham has an opportunity to develop and rejuvenate UOS in its downtown area that will make the city stand-out as a place to live, work, and play. The city has already embarked on a UOS planning process; however there are many considerations and decisions still to be made. These recommendations are based on the surveys with the case study cities and were chosen because they were innovative, key to the success of a particular city, or were a reoccurring theme among cities interviewed. This list is not intended to be exhaustive of the best practices developed by previous research or provided in the extensive literature on the topic. Rather, it is intended to share recommendations from this specific case study research. Five suggestions were developed:

- 1) Improve the downtown trail system
- 2) Plan for adequate operations, maintenance, and repairs
- 3) Program and activate
- 4) Engage stakeholders
- 5) Set minimum requirements for provision and design
- 6) Conduct post-occupancy evaluations

Improve the Downtown Trail System

Context

The American Tobacco Trail (ATT), which is part of the East Coast Greenway, is a 22-mile trail that runs from Chatham County to Durham County and passes directly through Downtown Durham. While the trail is a favorite amenity in Durham, the stretch between the Bulls Stadium and the Central Park, which runs through the center city, could be improved. Although improvements were made in recent years participants at Durham's UOS Open House held on March 9, 2011 were still concerned about the downtown portion of trail lacking sufficient or unclear signage, safe street crossings, foliage, and designated roadway for bicyclers.

In addition to the ATT, the acquisition and development of what is known as the Duke Beltline, which is a former railroad spur corridor, is part of Durham's Trails and Greenways Master Plan adopted by the City Council in 2001. The Beltline is a two-mile (approximately) crescent surrounding the downtown to the north. According to the Durham Open Space and Trails Commission the Beltline "is a vital link not only between the heart of downtown Durham and urban neighborhoods to the north, but also between two

key sections of existing trail.”⁵⁶ However, negotiations to purchase this old rail corridor are still pending.

Recommendation

Durham’s UOS plan should feature and improve upon the American Tobacco Trail (ATT) and the Duke Beltline to provide a system for pedestrian and bike travel between the points of interest and open spaces downtown, as well as linking to the surrounding neighborhoods. Connectivity of UOS was a resounding issue in all cities surveyed and continues to be a primary request of open space users. Durham should challenge itself to both create a continuous green network through downtown and capitalize on the economic opportunities along the path, such as places for users to stop, relax, and perhaps relax with a drink or ice cream cone. Furthermore, the American Tabaco Trail is also a signature element of Durham, bringing a sense of identity and context to the space. Like a prominent natural feature found in other cities (such as the waterfront in Dallas, Charleston, and Norfolk), the ATT can and should serve as the major asset to build from. Making the ATT more user friendly through the downtown and expanding the green network through the Duke Beltline should be components of the UOS plan in order to both provide connectivity as well as promote the identity of Durham.

Plan for Adequate Operations, Maintenance, and Repairs

Context

According to a survey from the Trust for Public Land, Durham currently spends less on open space operating expenditures per resident than many other cities in the U.S. At a \$41 expenditure per resident Durham is well below the calculated average of \$75 per resident and the median of \$64.⁵⁷ Compared to the case study cities included in the Trust for Public Land’s survey Durham’s level of expenditure falls below of all of them, see Table 3. While the sheer total spent does not itself dictate the adequacy or inadequacy of operational factors such as maintenance and repairs, it does suggest that care should be taken to ensure proper funding.

⁵⁶ Durham Open Space and Trails Commission. (2008). Duke Beltline. Retrieved April 2011 from http://www.bikewalkdurham.org/dost/DOST_Maps/Beltline.pdf.

⁵⁷ The Trust for Public Land. (2008). Park-Related Expenditure per Resident, by City. Retrieved March 19, 2011 from http://www.tpl.org/content_documents/citypark_facts/ccpe_Spending_Reports_2010.pdf.

Table 3: Park-Related Operating Expenditure per Resident, by City, FY 2008

City	Population	Park Operating Expenditure	Expenditure per Resident
San Francisco	808,976	\$125,147,379	\$155
Greensboro	250,642	\$18,676,419	\$75
Norfolk	234,220	\$15,167,154	\$65
Charlotte/Mecklenburg	890,515	\$44,016,331	\$49
Durham	223,284	\$9,161,560	\$41
Average, All Cities Surveyed			\$75
Median, All Cities Surveyed			\$64

Source: Adapted from The Trust for Public Lands

Recommendation

Adequate maintenance and repairs are essential for the long-term sustainability of open spaces. Durham should review its current levels of maintenance to assess their adequacy, both from an overall perspective as well as on a case-by-case basis for each space. It should also set guidelines for the minimum operational expense requirements for new spaces, as this can be overlooked in attempts to encourage the development of such spaces. Durham should also encourage the development of formal organizations that contribute to and enhance the care and stewardship of open spaces, much like the conservancy model being used in several cities.

Program and Activate

Context

A participant at Durham's UOS Open House lamented the fact that during the weekend daytime hours, downtown Durham can seem deserted and therefore uninviting. On the other hand another participant was concerned that Durham Central Park had too many structured activities from the Farmer's Market to the skate park. These two opinions perhaps point to the need to focus more programming on other downtown spaces and to upgrade the passive recreational space available in the hub of Central Park.

Recommendation

According to the cities surveyed, programming can help create a consistent use of the space throughout the day and the week, as opposed to some places that are only used during week day lunch hours, or are overused on the weekends. Secondly, programming can also help to bring a variety of users to the UOS. Several cities surveyed dealt with the potential

users' concerns of safety because of an abundance of people who were homeless using the park, by increasing the programming to create a mix of activities. This programming helped populate the park so it was not seen solely as for a place for homeless people. Creating a consistent use by a variety of users should be a goal for the UOS plan. To achieve this goal Durham's UOS plan should include and budget for programming of the open space areas. Likewise programming should not only be considered for public parks but also encouraged for larger privately owned open spaces.

Engage Stakeholders

Context

Durham's UOS planning process was initiated by the Durham Open Space and Trails Commission, which is a city-county advisory board appointed by both the City Council and Board of County Commissioners. The Joint City-County Planning Department was then charged with developing the UOS Plan. Stakeholders have been engaged through the development of and consultation with an advisory that consists of stakeholders representing both environmental, residential, and development interests. Additionally public input was collected through workshops on downtown planning and the UOS open house (see Image 15).

Image 15: Public Participation at UOS Open House, Durham, NC



Source: Author

Recommendation

There are many stakeholders for a downtown urban area from the different departments within the city-county structure (such as Parks and Recreation, Economic Development, etc.), to the business community, to the residents, and so forth. The Durham UOS planning effort should engage all of these stakeholders early in the process and coordinate continually as needed. In particular, diligence in community participation, cross-

departmental planning, and communication between the stakeholders should be paramount.

Set Minimum Requirements for Provision and Design

Context

Downtown Durham has a rich building stock including many historic buildings (see Image 16). Preserving the character of these buildings will add value to the downtown area. The open spaces around these buildings and around new development in downtown will also add or subtract from this character.

Image 16: Downtown Historic Building, Durham, NC



Source: Author

Recommendation

Durham should set minimum requirements for provision and design of UOS. While perhaps politically challenging, such requirements would help set a standard and communicate minimum expectations for developers interested in downtown. Based on the experiences of other case study cities, Durham could begin with requirements for large commercial properties and expand as needed. Hand-in-hand with minimum space

required, Durham should also set out design guidelines. These guidelines should be flexible in that they allow for creative design, yet inflexible in that they are the minimum necessary to obtain the requisite permits. Durham should consider the emerging “Green Factor” model from Seattle and Berlin that allows flexibility for developers to meet their requirements.⁵⁸ These minimum requirements can communicate the expectations and provide a basis to fulfill the vision for downtown open space.

Conduct Post-Occupancy Evaluations

Context

What user activities occur in Durham’s CCB plaza? When do people use the open space in front of the convention center (see Image 17)? How do users interact with the space and how would they like to? These are questions that could be answered with a post-occupancy evaluation of two of the most recently renovated open spaces in Durham.

Image 17: Convention Center Plaza, Durham, NC



Source: Author

Recommendation

Durham should conduct post-occupancy evaluations of open spaces to gauge use and enjoyment of the spaces. In surveying the case study cities, there was little evidence of formal evaluation of open spaces. Therefore, it was hard to determine if they were successful in their use of space or user satisfaction with the spaces. Durham can position itself respond to user needs and document its success with UOS by conducting forma post-occupancy evaluations.

⁵⁸ For more information on the Green Factor, see details from the City of Seattle at <http://www.seattle.gov/dpd/permits/greenfactor/Overview/> and the City of Berlin <http://www.stadtentwicklung.berlin.de/umwelt/landschaftsplanung/bff/en/situation.shtml>.

Appendix A: Participant Consent Form

In order to help decision-makers better understand the urban open space planning process and implementation process, a graduate student at the University of North Carolina is conducting an important study about this topic. Your participation in this study will help provide important information that will be used to guide future processes in the Durham, North Carolina area and potentially other cities undergoing this same process. Specifically you are being asked to participate in an interview about the urban open space experiences in your city.

Your participation in this study is voluntary and confidential, and should take approximately one hour or less to complete the interview. You may skip any question for any reason. Scheduling an interview time is an indication of your willingness to participate in the study. However, you can choose not to participate at any time. You are entitled to complete confidentiality of your interview responses. Moreover, if you choose to allow for identification of your response you may do so on an individual question basis, therefore still ensuring the confidentiality of sensitive information.

If you have any questions about the survey, please contact the project director below. The faculty advisor assigned to this study is professor Mai Nguyen. You may reach her at 919.962.4762 or nguyen@unc.edu. If you have any questions about your rights as a participant in this study, please contact the University of North Carolina's Institutional Review Board at (919) 966-3133 or irb_questions@unc.edu.

Project Director
Krista Holub
(919) 370 – 6595
kholub@email.unc.edu

Appendix B: Guided Interview Questionnaire

The guide was meant to give direction to the interviews and provide consistency between the interviews. However, additional questions were prepared for each interview based on information provided in the city's planning documents and codes.

1. How does the city encourage the *private* development of green spaces, parks, and plazas in the downtown area?
2. What does good downtown open space look like? Can the results of these efforts be codified for a standard for future efforts? How are the outcomes measured?
3. How the appropriate amount of open space needed is balanced with economic development initiatives, or how do the various plans work in concert?
4. What, if any, are the open space development requirements for new development in the urban core? How do these requirements fit into the larger systematic plan? How have density bonuses for open space been put into practice?
5. How are existing parks and open spaces maintained, particularly where does the funding come from for operating and maintenance?
6. How does the programming of open space work (who organizes and funds it)? How important is it?
7. What do you think is working well regarding downtown open space planning and implementation? What would you have done differently?
8. What recommendations do you have for other cities (and specifically Durham, NC) as they work to develop urban open space?
9. Who else should we talk with?

Appendix C: Open Space Requirements, Charlotte, NC

Charlotte, North Carolina - Code of Ordinances Chapter 9: General Districts, Part 9: Uptown Mixed Use District

Section (4)

Urban open spaces. Open spaces for public congregation and recreational opportunities are required and must be equipped or designed to allow pedestrian seating and to be easily observed from the street or pedestrian circulation areas. These provisions apply only to new office uses with a gross floor area greater than 20,000 square feet. All urban open spaces must comply with the minimum required design standards of this ordinance. If urban open space is provided but not required it must also meet the minimum urban open space design standards.

(a)

Urban open space sizes. Buildings must be provided with public open space behind the required setback and on private property proportionate to their bulk according to the following schedule:

Lot Size (Square Feet)	Open Space Required (1 square foot/gross square feet of floor area for office use)
0—20,000	1 square foot/200
20,001—40,000	1 square foot/150
above 40,000	1 square foot/100

A maximum of 30 percent of this required urban open space may be provided on an enclosed ground floor level provided the enclosed space meets all other requirements of these provisions. If a property line of the site is within 200 feet of the property line of a publicly owned and useable open space, then up to 50% of the required urban open space may be provided on an enclosed ground floor level provided the enclosed space meets all the requirements. The 200 feet shall be measured along the public right-of-way line. If any existing buildings are reused as part of a larger development, all the required urban open space may be provided on an enclosed ground floor level.

(b)

Accessibility to the street. Eighty-five percent (85%) of the total urban open space must be accessible to and visible from the street, but in no instance more than 3 feet above or below the level of an adjoining right-of-way. Walls higher than 3 feet are not allowed along that portion of the frontage that is needed for access to a required urban open space. Required entryways and steps must be at least 15 feet wide. Steps must have a maximum riser height of 6 inches and a minimum tread of 12 inches.

(c)

Provision for the disabled. All urban open spaces must conform with the North Carolina State Building Code, the disabled section and American Disabilities Act (ADA).

(d)

Seating. There must be at least 1 linear foot of seating for each 30 square feet of open space. In the event that the open space exceeds 20,000 square feet then 1 linear foot of seating shall be provided for each 100 square feet of open space above 20,000 square feet. Required seating must be an integral part of the overall open space design. Twenty-five percent of the required seating must be permanent. Seating must be 16 to 24 inches high. In the case of a ledge which rises because of a grade change, the portion of the ledge between 16 inches and 36 inches high can count as seating. Seating must have a minimum depth of 15 inches. Ledges and benches which are sittable on both sides and are 30 inches deep will count double. The rims of planters which are flat and sittable can count as seating if they have a minimum depth of 8 inches, a maximum height of 36 inches, and are not blocked by protruding shrubbery. Movable chairs will count as 30 inches of linear seating per chair. They can be stacked and stored between 7:00 p.m. and 8:00 a.m. The seating requirement may be reduced by 25% if expanses of lawn with an area of greater than 5,000 square feet are provided. Lawn areas shall be provided with automatic irrigation.

(e)

Trees. Within the open space area(s), 1 tree must be planted for each 500 square feet or portion thereof up to 2,000 square feet. One additional tree is required for each additional 1,000 square feet of urban open space. In the event the required or provided open space exceeds 20,000 square feet then one tree shall be provided for each additional 2,000 square feet over 20,000 square feet. Trees must have a minimum caliper of 3—3½ inches measured 6 inches above ground at time of planting. The planting of and specifications for all trees must be approved by the designated representative of the City of Charlotte Engineering and Property Management Department prior to planting. Maintenance of trees required under these provisions must conform to the requirements of section 12.305. All specifications for measurement and quality of trees must be in accordance with the "American Standard for Nursery Stock" published by the American Association of Nurserymen. Tree requirements may be reduced by 25% if expanses of lawn with an area

of greater than 2,000 square feet are provided. Lawn areas shall be provided with automatic irrigation.

(f)

Food. The provision of food facilities is encouraged. Food kiosks can count as open space provided they do not exceed one hundred fifty (150) square feet in area. No more than one-half ($\frac{1}{2}$) of the open space may be used for an open-air cafe. Litter receptacles must be provided at a minimum of four (4) cubic feet of receptacle capacity for each eight hundred (800) square feet of open space.

(g)

Amenities. The following amenities are permitted within an urban open space area: ornamental fountains, stairways, waterfalls, sculptures, arbors, trellises, planted beds, drinking fountains, clock pedestals, public telephones, awnings, canopies, and similar structures.

(h)

Maintenance. The building owner, lessee, management entity or authorized agent are jointly and severally responsible for the maintenance of the urban open space area including litter control and care and replacement of trees and shrubs.

(i)

Existing plazas and spaces. Buildings and plazas constructed prior to the adoption of this section may be changed to include any of the amenities and features required or encouraged by these standards such as the provision of food facilities, movable chairs, and alteration of ledges to make them sittable.

Available at

<http://library.municode.com/index.aspx?clientId=19970&stateId=33&stateName=North%20Carolina>

Appendix D: Open Space Requirements, San Francisco, CA

San Francisco, California, Planning Code ARTICLE 1.2: - DIMENSIONS, AREAS, AND OPEN SPACES SEC. 138. - OPEN SPACE REQUIREMENTS IN C-3 DISTRICTS.

(a)

Requirement. An applicant for a permit to construct a new building or an addition of gross floor area equal to 20 percent or more of an existing building (hereinafter "building") in C-3 Districts shall provide open space in the amount and in accordance with the standards set forth in this Section. All determinations concerning the adequacy of the amount of open space to be provided and its compliance with the requirements of this Section shall be made in accordance with the provisions of Section 309

(b)

Amount Required. Open space shall be provided in the amounts specified below for all uses except (i) residential uses, which shall be governed by Section 135 of this Code; (ii) institutional uses; and (iii) uses in a predominantly retail building. For the purposes of this section, a "predominantly retail building" is one in which 2/3 or more of the occupied floor area is in retail use.

Minimum Amount of Open Space Required	
Use District	Ratio of Square Feet of Open Space to Gross Square Feet of Uses with Open Space Requirement
C-3-O	1:50
C-3-R	1:100
C-3-G	1:50
C-3-S	1:50
C-3-O (SD)	1:50

(c)

Location. The open space required by this Section may be on the same site as the building for which the permit is sought, or within 900 feet of it on either private property or, with the approval of all relevant public agencies, public property, provided that all open space

must be located entirely within the C-3 District. Open space is within 900 feet of the building within the meaning of this Section if any portion of the building is located within 900 feet of any portion of the open space. Off-site open space shall be developed and open for use prior to issuance of a temporary permit of occupancy of the building whose open space requirement is being met off-site. The procedures of Section 149(d) governing issuance of a temporary permit of occupancy shall apply to this subsection.

(d)

Types and Standards of Open Space. Except as otherwise provided in Subsection (e), the project applicant may satisfy the requirements of this Section by providing one or more of the following types of open space: A plaza, an urban park, an urban garden, a view terrace, a sun terrace, a greenhouse, a small sitting area (a snippet), an atrium, an indoor park, or a public sitting area in a galleria, in an arcade, or in a pedestrian mall or walkway, as more particularly defined in the table entitled "Guidelines for Open Space" in the Open Space Section of the Downtown Plan, or any amendments thereto, provided that the open space meets the following minimum standards. The open space shall:

(1)

Be of adequate size;

(2)

Be situated in such locations and provide such ingress and egress as will make the area easily accessible to the general public;

(3)

Be well-designed, and where appropriate, be landscaped;

(4)

Be protected from uncomfortable wind;

(5)

Incorporate various features, including ample seating and, if appropriate, access to food service, which will enhance public use of the area;

(6)

Have adequate access to sunlight if sunlight access is appropriate to the type of area;

(7)

Be well-lighted if the area is of the type requiring artificial illumination;

(8)

Be open to the public at times when it is reasonable to expect substantial public use;

(9)

Be designed to enhance user safety and security;

(10)

If the open space is on private property, provide toilet facilities open to the public;

(11)

Have at least 75 percent of the total open space approved be open to the public during all daylight hours.

(e)

Approval of Open Space Type and Features. The type, size, location, physical access, seating and table requirements, landscaping, availability of commercial services, sunlight and wind conditions and hours of public access shall be reviewed and approved in accordance with the provisions of Section 309, and shall generally conform to the "Guidelines for Open Space."

The Commission may, by resolution, declare certain types of open space ineligible throughout C-3 Districts, or in certain defined areas, if it determines that a disproportionate number of certain types of open space, or that an insufficient number of parks and plazas, is being provided in order to meet the public need for open space and recreational uses. Such resolution may exempt from its application projects whose permit applications are on file with the Department of City Planning. Over time, no more than 20 percent of the space provided under this Section shall be indoor space and at least 80 percent shall be outdoor space. Once an indoor space has been approved, another such feature may not be approved until the total square footage of outdoor open space features approved under this Section exceeds 80 percent of the total square footage of all open spaces approved under this Section.

(f)

Open Space Provider. The open space required by this Section may be provided: (i) individually by the project sponsor; (ii) jointly by the project sponsor and other project sponsors; provided, that each square foot of jointly developed open space may count toward only one sponsor's requirement; or (iii) with the approval of the City Planning Commission, by a public or private agency which will develop and maintain the open space and to which a payment is made by the sponsor for the cost of development of the number of square feet the project sponsor is required to provide, and with which provision is made, satisfactory to the Commission, for the continued maintenance of the open space for the actual lifetime of the building giving rise to the open space requirement, provided that the Commission finds that there is reasonable assurance that the open space to be developed

by such agency will be developed and open for use by the time the building, the open space requirement of which is being met by the payment, is ready for occupancy.

(g)

Nonresidential/Residential Open Space. In mixed nonresidential/residential projects, open space which meets the requirements of Section 135 regarding common usable open space for residential uses, and the requirements of Section 138 regarding open space for nonresidential uses, may be counted against the open space requirements of both Sections 135 and 138.

(h)

Maintenance. Open spaces shall be maintained at no public expense. Conditions intended to assure continued maintenance of the open space for the actual lifetime of the building giving rise to the open space requirement may be imposed in accordance with the provisions of Section 309

(i)

Informational Plaque. Prior to issuance of a permit of occupancy, a plaque shall be placed in a publicly conspicuous location outside the building at street level, or at the site of an outdoor open space, identifying the open space feature and its location, stating the right of the public to use the space and the hours of use, describing its principal required features (e.g., number of seats, availability of food service) and stating the name and address of the owner or owner's agent responsible for maintenance.

(Added by Ord. 414-85, App. 9/17/85)

Available at

<http://library.municode.com/index.aspx?clientId=14300&stateid=9&statename=San%20Francisco%20CA%20Suite%20of%20Codes&stateMode=true>

Appendix E: Open Space Requirements, Norfolk, VA

Norfolk, Virginia, Code of Ordinances, Appendix A, Article II. , Chapter 8

8-0.12 *Open space.* The term open space shall be construed to consist of open space amenities and spacing between buildings. Open space amenities include plazas, esplanades, landscaped areas, pools or other water features, arcades, and the like designed and maintained for use by pedestrians and open to the public. Such open space amenities shall not be open to vehicular use and should be directly accessible from street level. Where feasible, open space shall be designed to serve as part of a coordinated pedestrian circulation system.

(a)

Landscaping standards for open space amenities.

(1)

Unless otherwise specified in this chapter, the standards set forth in Article III, Chapter 17 shall govern the provision of required landscaping in the **Downtown** Districts.

(2)

One tree (2½ to 3½ inches caliper at the time of planting, or an alternative size approved by the department of parks and recreation and the planning commission) for every 500 square feet of required open space to be located in the open space.

(3)

A minimum of 25 linear feet of seating for every 1,000 square feet of required open space which shall be more than 12 inches and less than 30 inches in height and not less than 16 inches in depth. Seating which is more than 28 inches in depth and accessible from two sides shall count double. Movable chairs shall count as 2½ linear feet.

(4)

At least ½ of required open space shall be within three feet of street grade.

(5)

A minimum of ¼ of the required open space shall be provided as water or landscaped with groundcover, shrubs, or flowers.

(6)

There shall be one water tap for every 10,000 square feet of landscaped open space.

(7)

There shall be one trash receptacle for every 5,000 square feet of open space.

(8)

Open space devoted to water use (pools and fountains) may be excluded from the preceding calculations.

Available at:

<http://library.municode.com/index.aspx?clientId=10121&stateId=46&stateName=Virginia>

References

- Beauregard, R. (2008). Making an Inclusive Urbanism: New York City's World Trade Memorial. In *A city of one's own: Blurring the boundaries between private and public*. Body-Gendrot, S.; Carre, J; and Garbaye, R (Eds). Aldershot, England; Burlington, VT: Ashgate.
- Body-Gendrot, S.; Carre, J; and Garbaye, R (Eds). (2008). *A city of one's own : Blurring the boundaries between private and public*. Aldershot, England; Burlington, VT: Ashgate.
- Carr, S., Francis, M., Rivlin, L., and Stone, A. (1992). *Public Space*. New York: Cambridge University Press.
- Center City Park. (n.d.). About. Retrieved December 2010 from <http://www.centercitypark.org/about/construction.php>.
- Citizen Will. (2010). *Weaver Street Market Lawn*. Retrieved October 2010 from <http://www.citizenwill.org/owl/weaverstreetmktlawn/>.
- City of Charlotte, Mecklenburg County, Charlotte Center City Partners. (2000). *Center City Vision Plan, 2010*. Retrieved December 2010 from <http://www.charlotte2010.com/>.
- City of Durham. (n.d.). *Urban Open Space Plan*. Retrieved October 2010 from www.durhamnc.gov.
- City of Montgomery. (2007). *Downtown Montgomery Plan*. Retrieved December 2010 from <http://www.montgomeryal.gov/index.aspx?page=60>.
- City of Shreveport. (2006). *Downtown 2010 Redevelopment Strategy, 2006 Update*. Retrieved December 2010 from <http://www.downtownshreveport.com/index.php?submenu=BusinessDevelopment&rc=gendocs&ref=2010RedevelopmentPlan&category=BusinessDevelopment>.
- Durham Open Space and Trails Commission. (2008). *Duke Beltline*. Retrieved April 2011 from http://www.bikewalkdurham.org/dost/DOST_Maps/Beltline.pdf.
- Ehrenfeucht, R. and Loukaitou-Sideris, A. (2010). Planning Urban Sidewalks: Infrastructure, Daily Life and Destinations. *Journal of Urban Design*, 15: 4, 459 — 471.
- Francis, M. (2003). *Urban open space: Designing for user needs*. Washington: Island Press.
- Kayden, J. S. (2000). *Privately owned public space: The New York City experience*. New York: John Wiley.
- Kohn, M., (2004). *Brave new neighborhoods: The privatization of public space*. New York: Routledge.
- Lofland, L. (1998). *The public realm: exploring the city's quintessential social territory*. New York: Walter de Gruyter.
- Loukaitou-Sideris A. and Ehrenfeucht, R. (2009). *Sidewalks: Conflict and negotiation over public space*. Cambridge, Massachusetts: MIT Press.
- Marcus, C. C., and Francis, C. (1998). *Post-Occupancy Evaluation*. In *People Places: Design Guidelines for Urban Open Space*. Marcus, C. C., and Francis, C. (Eds). New York: Van Nostrand Reinhold.
- Mitchell, D. (2003). *The Right to the City: Social justice and the fight for public space*. New York: The Guilford Press.
- Rogers, R (2008). Our right to see the trees: Parks and squares aren't a luxury, but an essential feature of the urban infrastructure. *The Guardian*, 17 March 2008. Retrieved

- October 2010 from
<http://www.guardian.co.uk/commentisfree/2008/mar/17/communities>.
- Schmidt, S. and Németh, J. (2010). Space, Place and the City: Emerging Research on Public Space Design and Planning. *Journal of Urban Design*, 15:4, 453 – 457.
- Sorkin, M. (1992). Variations on a Theme Park: The new American city and the end of public space. New York: The Noonday Press.
- Staeheli, L. and Mitchell, D. (2008). The People's Property? Power, Politics, and the Public. New York: Routledge.
- Trust for Public Land, The. (2010). The Economic Benefits of the Park and Recreation System of Mecklenburg County, North Carolina. Retrieved February 2011 from http://www.tpl.org/content_documents/ccpe_Mecklenburg_county-report1.pdf.
- Varna, G. and Tiesdell, S. (2010). Assessing the Publicness of Public Space: The Star Model of Publicness, *Journal of Urban Design*, 15: 4, 575 — 598. doi: <http://dx.doi.org/10.1080/13574809.2010.502350>.
- Walker C. (2004). The Public Value of Urban Parks. Washington, DC: Urban Institute. Retrieved March 2011 from <http://www.wallacefoundation.org/SiteCollectionDocuments/WF/Knowledge%20Center/Attachments/PDF/ThePublicValueofUrbanParks.pdf>.
- Whyte, W. (1980). *The Social Life of Small Urban Places*. Washington, D.C.: The Conservation Foundation.
- Yin, R. K. (2003). *Case Study Research: Design and Methods*. Thousand Oaks, CA: Sage Publications.