

SUNY COLLEGE OF ENVIRONMENTAL SCIENCE AND FORESTRY

Improving Pedestrians' Experience in SoHo, NYC

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II. Introduction



The quality of the pedestrians' environment contributes immeasurably to the quality of public life in an urban environment. Pedestrians usually get their walking experience from the whole urban environment, which includes visual qualities of streetscape, other people's behaviors, traffic density, and sidewalk safety. It is the place where community meets, gathers, shops, works and spends its leisure time. The pedestrians' environment consists of those places that people have unlimited and direct access to. There is now, however, growing concern that American streets are becoming "privatized", denying people basic rights of access, use and enjoyment. Research, historical analysis and some demonstration projects have begun to show that good streets work democratically—streets that have meaning for people, invite access for all, encourage use and participation, are loved, and are well cared for by their users. This study will mainly focus on how to apply the democratic street and outline a number of objectives for improving the pedestrians' experience as the area changes over time.

SoHo is one of the most sophisticated neighborhoods in lower Manhattan. Demographic and physical changes have occurred since the local act and market developed. With its high quality shopping environment and historic character, SoHo attracts people from every corner of the world. Many higher income families are willing to live there. The study of SoHo focuses on applying the concept of democratic streets to this booming historical neighborhood. The resulting recommendations will reinforce the improvement of pedestrians' experience in SoHo.

III. Context



Background Context

SoHo is an acronym for the forty-three-block area in Manhattan south of Houston Street, one of the communities defined by the New York City Bureau of Community Planning, and a zoning district. Three of its boundaries are six-lane streets that separate it from contiguous areas. The eastern boundary is not as clearly delineated, but the adjacent area on that side is Manhattan's Little Italy, and the neighborhood difference between buildings and land use are sharp enough to make a line of demarcation apparent. Although Sixth Avenue is considered the western boundary, a high concentration of multi-story structures in the northeast of the avenue are considered to be part of Greenwich Village; these are not in the officially zoned district of SoHo. Canal Street is the south boundary.



Figure 1: the location of SoHo

Along with urban and economic development, a series of changes affected this part of Lower Manhattan. Most of the cast-iron buildings that came to mark the neighborhood for architectural preservation were constructed between 1840 and 1880, generally for use by the textile industry. In later decades, the structure of SoHo gradually formed. Beginning in 1890, streetcars pulled by horses came from

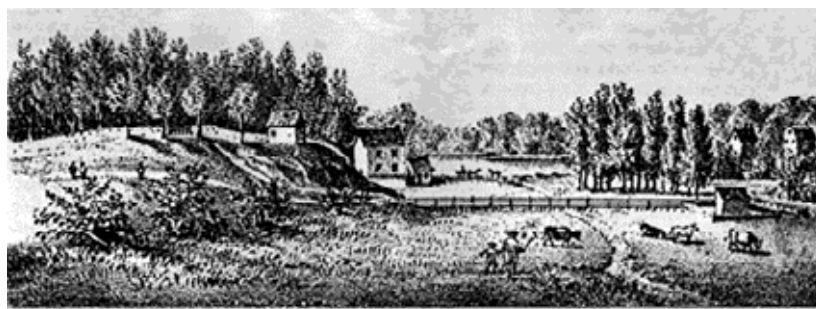


Figure 2: LISPENARD'S MEADOWS taken from the N.E. corner of the present Broadway & Spring St. Drawn by A. Anderson, 1785

the East River across Delancy Street and the Lower East Side, taking immigrant workers across Spring Street past Broadway and then West Broadway to Broome Street and the Hudson River, and then taking them back in the evening on a two-way street. In the 1960s a populous artistic community took over, taking advantage of the rents and converting the deserted warehouses into studios and studio apartments. The laws were changed in the early 1970s, and over the next couple of decades the area grew more fashionable once again, with the result that the very same artistic community that had made it so attractive could now no longer afford to live there.

Nowadays, SoHo has become one of the most fashionable neighborhoods in New York City with gracious lofts and the best stores, hotels, restaurants, galleries, and art studios. However, as cars have been introduced into daily life, streets in SoHo have become crowded with increasing amounts of dangerous traffic. However, in this historic neighborhood, the traffic problem is not the only problem SoHo faces. Suggestions, decisions will be made in this study to improve pedestrians' experience by solving problems that now exist while protecting historic streets and the neighborhood.

Literature review

Democratic streets

Anne Moudon proposed and gave a definition of the term "Democratic Streets" which integrates some aspects of pedestrian and livable streets in late 1980's (Moudon, 1987). A good understanding of the democratic streets will help us to study the pedestrian environment in SoHo.

One of the most important concept of democratic street is that the street shall reflect the nearby larger neighborhood and city – its history as well as its social and economic diversity. A democratic street also shows social justice, economic health and ecological vitality and is friendly to pedestrians and livable for residents while it provides balanced space for motor vehicles and other street users, namely, pedestrians and bicyclists.



Figure 3: Suburban mall concept applied to city center at Quincy Market, Boston, Massachusetts.

Moudon, from researches, studies and observations of the democratic streets, hosted a discussion of the criteria that can be applied to evaluate existing streets and/or for designing new ones.



Figure 4: Washington Street in Boston, Massachusetts, after implementation of an auto-restricted zone.

USE AND USER DIVERSITY

A healthy street **shall** balance between different user groups and activities.

ACCESSIBILITY

The space **shall** be "open" which means it must be publicly accessible.

PARTICIPATION/MODIFICATION

The street **shall** be designed and managed with direct participation of users – the street users.

Streets **shall** also be able to be modified by their users to fit the changing activities and needs of the community.

REAL AND SYMBOLIC CONTROL

A democratically successful street **shall** let people feel a sense of control over the street itself. Streets work democratically when residents have the feeling that they are the hosts of the street in a neighborhood.



Figure 5: Residents take control of street by planning trees in street space

TRAFFIC MANAGEMENT

A democratic street **shall** provide the function of traffic management. Also, ongoing traffic management is required in order to bring other democratic elements into the street such as use, access and participation and make those elements to be effective.

SAFE/ SECURITY

The street **shall** give the users a feeling of safety. Peoples' concern about traffic is only part of their need to safe on a street. A poorly understood dimension of city life is that the effect of crime on street satisfaction. For example, one of the major barriers to street use, especially for women, is the fear of being assaulted or robbed. Another example is that drug sales commonly take place on streets and create a sense of insecurity for pedestrians. Often there is a gap between real and perceived crime that restricts a person's use of the public environment.

GROUND FLOOR-STREET RELATIONSHIP

A democratic street **shall** have a social connection that links ground floor building uses to the adjacent street space. A healthy relationship between private or semipublic life inside building and the public world outside is crucial to a public street (Fischer 1981).

COMFORT

The street **shall** be comfortable. A few examples given by Moudon include adequate shading form hot summer sun and extreme temperatures, solar access during cold days, adequate and comfortable seating space. Besides, the design of a comfortable democratic street should consider the following aspects: visual quality, physical comfort, and lighting and information board for street life.

ECOLOGICAL QUALITY

A democratic street **shall** be environmentally healthy. Air and noise quality affect one's attachment to a street and should be carefully monitored and controlled through traffic management. Different patterns, colors, and textures will give pedestrians different experiences while they are walking down streets. If it necessary, trees, plants and animals are encouraged to reintroduce to the street environment to help create greater user comfort and satisfaction.



Figure 6: Trees adjacent to urban paths and streets in London, England, add visual interest and clean air

ECONOMIC HEALTH

A street **shall** be economically healthy as well as be ecological healthy. Economic health needs to be balanced with other dimensions of street democracy, such as diversity of uses and users, participation, and controlled traffic speeds.

ENVIRONMENTAL LEARNING AND COMPETENCE

A democratic street **shall** be a place where we learn to deal more competently with our everyday environment (Ward 1978).

LOVE

A democratic street, most importantly, **shall** be loved. It is hard measured how the street is loved although meaning and memorable are signs that could be relied on. As mirrors of the history of a place, a democratic street provides a connection between people and previous street use and reveals the large social and political world in which the street exists.

CONFLICT

By the definition of a democratic street, it requires greater user participation and negotiation which leads to the conflicts occurred during the effort to make streets democratic. Designers can play a significant role in translating the everyday experience and values of people into concrete plans. As a result of this process, streets will become stages for more diverse urban life and activity.

The existing problems in SoHo district, for example, the traffic, lacking of identities and connections and so on are addressed in the concepts of democratic street. So I can use the concept of democratic street concept as a template in the project to evaluate the current SoHo streets. Also, I can use this concept as a guideline in my improvements of SoHo pedestrians' environment.

Case Study

In order to understand the application of the concept of democratic street, two case studies both of which has the major concept of applying the democratic street into design consideration have been selected to study. The first case study will involve democratic streetscape development, looking at the methods involved in designing and connecting different characteristic neighborhoods. The second case study will concern about larger scale analysis of street system in urban areas. I will use them to compliment my analysis design process, as they take account of variety of conceptual approaches, scales, cultural and history response, and stylistic and formal design strategies.

Case 1: Spadina Avenue, Toronto

Spadina Avenue is one of the most prominent streets in Toronto, Canada.



Figure 7: Spadina Ave, http://transit.toronto.on.ca/archives/weblog/2006/04/21-new_street.shtml

The road has a very different character in different neighborhoods through the western section of downtown. Built as early as 17th century, Spadina Avenue runs across the downtown Toronto. It connects the river front, industrial area, fashion district, an upper middle class neighborhood, the University of Toronto, Market, Chinatown and so on. It is one of the most prosperous streets in downtown Toronto like Broadway in New York. Though it has a different character in different neighborhoods, it works very well.

Spadina LRT Public Art program is intended to express the character of Spadina Avenue by its rich history and cultural heritage. Its mandate is to create a vibrant new streetscape by giving form to Spadina's communities, past and present, with their different voices and histories. This program identified the varied communities, industries and institutions that co-exist on the Avenue. It acknowledges the history and heritage of the diverse peoples who have come to Spadina in successive waves before moving on to other parts of the city. The various neighborhoods are identified as the art program sites, including the Art and Fashion Districts, Chinatown, Kensington Market and the University District.



Figure 8: the location and relation ship of Spadina Ave, Tornado



Figure 9: Spadina Ave. at Chinatown (1)



Figure 10: Spadina Ave. at Chinatown (2)

The King-Spadina project is another project that outlined a number of objectives for improving the public realm as the area changes over time. And the streetscape is a large portion of the whole project since they are a vitally important aspect of the public realm for the neighborhood.



Figure 11: King-Spadina Plan

This improvement project has evolved to accommodate more retail, commercial and residential uses, and the transformation of the streetscape to a condition typically associated with types of uses of the neighborhood. At the same time it has not necessarily been appropriate to make changes to the streetscape that result in the loss of the historic character of the area such as a manufacturing district. The challenge in King-Spadina like SoHo neighborhood is that development activity in general has increased traffic on the streets, and the expectations of new residents and retailers regarding the quality of the public realm. Consider the use/user diversity, accessibility, participation/modification, real and symbolic control, traffic management, safe/security, ground floor-street relationships, ecological quality, economic health, environmental learning and competence, love and conflict, the King-Spadina neighborhood seeks to improve the real and symbolic control, traffic management, safety/security and ecological conflicts.

The key principles of the streetscape are:

- Create tree lined streets with growing conditions that support a long term greening strategy for the study area;

- Create safe well lit sidewalks;
- Develop a palette of street amenities and furnishings that reflects the unique character of the area;
- Eliminate parking in the public boulevards such as on Wellington west of Spadina;
- Narrow John Street to create wider pedestrian sidewalks;
- Preserve special places such as the cafes of King Street and;
- Create a standardized paving treatment that organizes the elements of the streetscape and is both attractive and practical from a maintenance perspective.

Because the streets within King-Spadina serve a variety of functions and roles, they have been codified, emphasizing their importance within a hierarchy of public spaces. The resulting hierarchies are primary streets, secondary streets, tertiary streets, lanes and pedestrian connections. Lanes provide service and parking access as well as pedestrian linkage. Pedestrian connections provide convenient pedestrian routes.

The objective of the streetscape hierarchy strategy is for the design and organization of the street to identify its role and function in the area's overall public realm. Additionally, the streetscape recommendations vary the same streets to respond to the difference in character between the areas west and east of Spadina Avenue.

Primary Streets

Primary Streets are the transit corridors and recognized major city streets. The streetscape treatment for these streets extends through neighbor districts. They are walk able, accessible and connect major citywide destinations.

Secondary Streets

Secondary Streets are important local streets that link to adjacent neighborhoods but are not main streets. They do not necessarily support transit but are still important real estate addresses and contribute significantly to the quality of the public realm. They comprise the largest area of streetscape development. They are walk able, accessible and connect destinations within the study area with those in the surrounding neighborhoods.

Tertiary Streets

Tertiary Streets are the smaller local streets that are one or two city blocks long with narrower cross sections and used by local traffic. In some cases the rights-of-way are quite narrow with only enough available space for a narrow sidewalk. There are limited opportunities for street tree planting but the pedestrian realm could be improved with the addition of public art, hanging baskets, banners and enhanced paving and lighting.

Lanes

Lanes are important pedestrian spaces that connect through the middle of the blocks. They are intended for servicing and parking access. However, they also provide pedestrian short cuts.

Pedestrian Connections

Pedestrian connections are important because they link neighborhoods. They create safe access across major streets or serve as corridors such as railway lines.

However, as a historic neighborhood, King-Spadina does not have as much business areas as SoHo has. From this point of view, the traffic condition and tourist quantity cannot compare with SoHo neighborhood. Therefore, when we selected the King-Spadina as the precedent project, we should consider the difference between two projects. We learn experience and solutions to address the democratic street in historic neighborhood, and develop another relative solution to improving pedestrian's experience in SoHo at the same time.

Case 2: Ottawa redefining its downtown project

With 15 neighborhoods and 9 planning precincts, downtown Ottawa's current challenges and the possible design solutions are diverse and numerous. George Dark, ASLA, of Urban Strategies, Inc., outlines the design challenges to improve the urban experience.

This Urban Design Strategy of 2020 was created as a tool to help develop, guide, and implement future development projects and public realm improvements within Ottawa's downtown area. The overarching aim of redefining the downtown strategy is to improve the urban experience of the area by enhancing the quality of the public realm and urban environment, including city streets, parks and open spaces, waterways, and areas of special character. This main goal is supported by three primary objectives:

- To create a shared vision of 'the downtown' between the City of Ottawa, the National Capital Commission, adjacent neighborhoods, business communities, and development partners;
- To establish urban design guidelines for area-wide and site-specific cases that will aid the city in setting an urban quality threshold to inform site development applications, public realm improvement plans, transportation, and development initiatives; and
- To provide an agreement upon strategy and priorities for long-term civic investment.

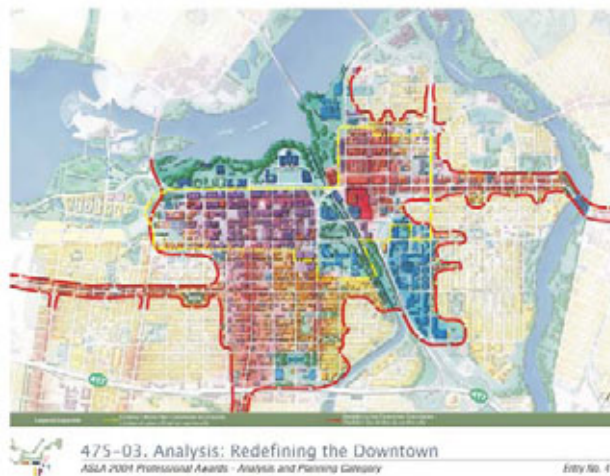


Figure 12: Ottawa downtown analysis

Since the downtown Ottawa Urban Design Strategy builds on existing initiatives and stakeholders and community, the planners analyzed the urban structure of the city to define key building blocks for the strategy. They identified an approach for enhancing the quality of Ottawa's urban experience through a program of downtown- wide initiatives, big moves and targeted actions. Finally, they recommended a way forward to best realize the potential for Ottawa's Downtown as a vibrant, functional and beautiful destination for both residents and visitors.

After careful analysis, nine geographically definable Precincts were identified as different specific places. For each Precinct, a cluster of area specific, targeted projects was recommended as well as a generally built form, streetscape and open space guidelines. They were defined and given unique roles.



Figure 13: Analysis of neighborhood and heritage conservation districts



Figure 14: Analysis of Urban street network



Figure 15: Targeted streetscape typologies

Ottawa redefining project is only on the step of concept and preliminary design which has not put into practices yet. Therefore, it has lots of unstable factors and not very similar with the situation in SoHo neighborhood. But we still can learn the method they used to analysis the spatial use, traffic conditions and the way they connect the whole city.

Problem Development

With the help of the literature research and case studies, I identified the problems of the pedestrians' environment in SoHo.

SoHo is located in the center of lower Manhattan. Because of its art and shopping environment, it has become a very popular public space that welcomes people from every corner of the world in the recent 30 years. As it is in the center of lower



Figure 16: Cars crowded through a crossroads in SoHo

Manhattan, it connects Little Italy, Chinatown, Greenwich Village, Tribeca and New York University (NYU). And what is more, you can walk along Broadway to the Washington Square from SOHO if you wish. Streets inside of SoHo, including West Broadway, Broadway, Broome Street, Spring Street and Mercy Street, carry very heavy traffic every day. Delivery vehicles, tourism buses, taxis and private cars crowd each other at the crossroads that ruins the pedestrians' experience. The traffic problem not only makes the air quality poor but also lowers the quality of the pedestrian's experience.

Most public activities happen on Broadway, which has become the most popular public space in SOHO. Different brands of shops attract visitors to come inside and vendors sell their goods like paintings, jewelry and foods alongside the sidewalk. The speeds of pedestrians are very fast and people cannot stop. The lack of public facilities and street furniture may prevent people from resting and understanding the historic neighborhood. The center of SoHo, which is Broadway, does not have a space that provides these functions.

My observation shows that visitors are always confused and get lost inside of SoHo because it lacks connections and an identity. Visitors usually consider it as a transition zone that they can use to go to other places like Little Italy, China Town and Washington Square. However, SoHo doesn't have a particular identity. So people who come there for the first time cannot orient themselves well. This phenomenon is very common in SoHo, however, in the financial district and at 34th Street the pedestrian experience is better because they have very clear and human-scale designed signage at every corner. It is a hypothesis of this study that lack of

connections and identity are factors that destroy the quality of the pedestrians' experience in SoHo.

SoHo is in period of social transition. The residential group has changed a lot in the recent two decades, and most of the artists have had to move out. Although there are lots of small art galleries, graphic studios and so on around its streets, the area is losing the atmosphere of true creativity it once had. The city government wants to protect this neighborhood due to its history while things inside of SOHO have been changing a lot. This change introduces a problem -- how we can apply the democratic streets in this historical neighborhood especially in the transition period. How can we meet the changing groups' needs in a historic neighborhood and bring the neighborhood to a new stage of public life?

We can use the ingredients of the democratic street to judge and analyze the problems in the SoHo neighborhood. Moudon discusses the factors necessary to evaluate a democratic street. When we apply these ingredients to SoHo, we can elaborate the problems SoHo faced that can affect the pedestrians' experience.

Accessibility

The accessibility of street space in SoHo is poor in many aspects. Steps block people's way to streets and stores. However, this factor will reduce the diversity of the users and usage. However, as an historic neighborhood, how can interventions be made to improve accessibility? Under these limited conditions, one appropriate method could be considered to protect the historic environment and build accessible street supporting all kinds' users.

Participation/Modification

Modify the pedestrians' environment in the historic neighborhood to meet the different user groups' needs. This is especially important in a historic neighborhood like SoHo where user groups and community needs have been changed in the recent 30 years. We should also encourage residents and visitors to participate in the activity of improving pedestrians' environment. Only with their opinions and advice we can understand the neighborhood pedestrians' environment.

Real and Symbolic Control

In the SoHo neighborhood, residents, business district and visitors' activities usually combine with each other, but no symbolic control separates different usage of space and different activities. Symbolic control has been largely ignored as an element of street design and management in SoHo. In a neighborhood like SoHo which has complex activities every day, some facilities may be added to encourage symbolic control by residents and visitors.

Traffic management

Traffic management is needed in order for other democratic elements, such as use, access, and participation, to be effective. Streets inside of SoHo, including West Broadway, Broadway, Broome Street, Spring Street and Mercy Street, carry very heavy traffic every day in SOHO. Commercial vehicles, tourism buses, taxis and private cars crowd each other at the

crossroads that ruin the pedestrians' experience. If we want to improve the pedestrians' experience in SoHo, which has a very narrow streets system and heavy traffic, traffic management is the key point to examine.

Comfort

The most serious deficiency in the SoHo neighborhood is the street life comfort such as vegetations, seating, visual qualities and so on. If we want improve the pedestrians' environment, we should consider appropriate solutions that can improve the street life comfort.

Connection and Identity

Built as early as 17th century, Broadway runs across the downtown Manhattan. It connects the river front; financial district, fashion district, an upper middle class neighborhood, New York University, Washington Square, Chinatown, the Time Square and so on. Each part of streetscape design in Broadway should reflect different neighborhood characteristic. Visitors usually consider SoHo as the transition zone because it connects different neighborhoods. A coherent space should be provided for pedestrians that can give people a good impression that they are willing to come back.

SoHo lacks details along streets such as water fountains, seating and local informational signage. This street furniture can give spaces a strong definition and character that can give the pedestrian an impression of a neighborhood space. Though lot visitors come to SOHO with their guidebooks in their hands, individuals are not actively developing a cognitive map of the whole environment; the local information and activities dominate their decisions.

These problems development are based on the literature research and case studies. Later, as my part of research, I will build an easy-to-use evaluation system based by quantitative approach to analyze the selected streets in SoHo. Further identify and isolate the problems, find out the root cause of these problems by using the evaluation system.

IV. Goals and Objectives



Goal: Apply the concept of democratic street in SoHo neighborhood to improve the pedestrians' experience.

Objective 1: Select a street or streets network inside SoHo. The selected street (street network) should represent the local history and cultural environment based on the age of buildings, the density of pedestrian's activities, the density of residents, the number of street vendors, traffic routes and so on.

Objective 2: Build an easy-to-use evaluation system using quantitative approach to measure each ingredient within the concept of democratic street. Use the already studied cases to verify and improve the correctness and practicability of the quantitative evaluation system.

Objective 3: Analyze the historic and existing conditions and problems of selected site. Study the history and the changes that have happened in the site. Collect the information of street issues, including users and users' type, traffic, existing space usage, the number of visitors, the number of residents, current community relationship and so on. Take photograph of visual resources, building details, conditions of vacant space, local street furniture, signs and any cultural indicators.

Objective 4: Use the quantitative evaluation system to analyze the data obtained to identify and isolate problems. Also, by analyze the data; try to find the root cause of the problem to help develop a solution.

Objective 5: Develop alternative solutions that incorporate democratic streets criteria in the selected site in SoHo. From these potential solutions, choose the most promising one that fits SoHo and reflects the local history and identity.

V. Design Process



Preliminary Site Selection:

In order to narrow our study area and clear the research objectives, I need to select the site inside to SoHo.

By using the analysis methods of Spadina Ave project, streets inside the SoHo neighborhood have been identified due to the different densities, functions and roles that need to. According to local history of SoHo, traffic conditions, and community relationship, streets were classified into three categories inside of SoHo neighborhood. They are:

·Primary Street: Broadway, Broom Street

Broadway is one of major streets across Manhattan Island carrying thousands of vehicles running through it every day. In SoHo neighborhood, Broadway is absolutely the Primary Street. It is the street that history of SoHo started there. It is the street that most visitors get known about SoHo. It is the street that most public activities happen there.

Broom Street is the one of the entrances to Holland Tunnel carrying heavy traffic at rush hour every day. It is the skeleton of street system of SoHo neighborhood.

These two streets are the transit corridors and recognized major city streets in SoHo. And most public transportations take Broadway as the major route. The streetscape treatment for these streets extends through neighbor districts. They are walkable, accessible and connect major citywide destinations.

·Secondary Street: W Broadway, Spring St, and Prince St

These three streets are important local streets that link to adjacent areas in SoHo but are not main streets. They comprise the largest area of streetscape development. They are like the blood vessel of SoHo that are walkable, accessible and connect destinations within the study area with those in the surrounding neighborhoods.

·Tertiary Streets: Wooster St, Greene St, Mercer St, and Grand St

These are the smaller local streets with narrower cross sections and used by local traffic in. Tertiary Streets are limited opportunities for street tree planting but the pedestrian realm could be improved with the addition of public art, hanging baskets, banners and enhanced paving and lighting.

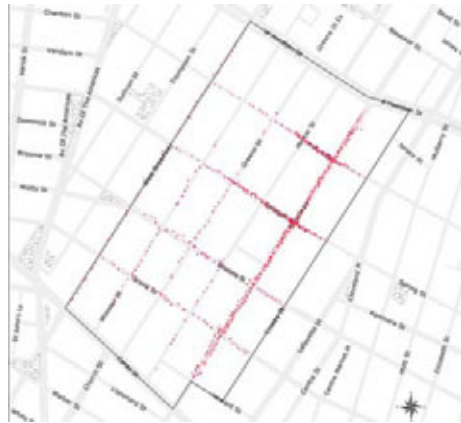


Figure 17: Activity and use density map of SoHo

A streetscape hierarchy strategy is necessary for the design and organization. The strategies identify the pedestrian environment and will create a consistent character for the area. Based on these criteria, improving pedestrians' environments will be identified, designed, and implemented. The site location is decided by streetscape hierarchy system.

Considered with criteria I developed and streetscape hierarchy, site of this study project is decided.

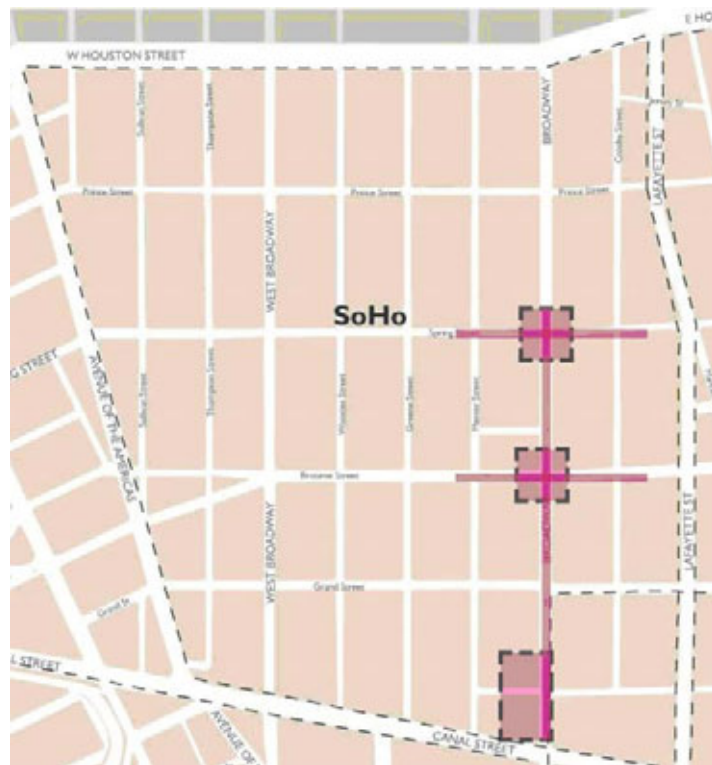


Figure18: Site elected map in SoHo , NYC

The site I selected represents the local history and conflict of SoHo neighborhood. Broadway is the Primary streets in SoHo, which is, consider as transition corridor and major road of city. Most of activities happen in three series of square crossroad. If I focus the study in these sites I

selected problems will be better defined and design goals and objectives will be better developed.

Methodology

Step 1: redefined site selection

Re-consider a street or streets network inside SoHo which can represent the local history and cultural environment based on the information such as the age of buildings, the number of buildings, the number of shops, the density of pedestrian's activities, the density of residents, the number of street vendors, traffic routes and so on. A selected street or streets network will represent and reflect the SoHo neighborhood's characteristics. The further study will mainly focus on the site.

At this step, I will compare the streets inside SoHo and choose the location for further study. These logical compares are mainly based on the traffic, the numbers of business, street history, and usage of the street. Because traffic and economic healthy are two ingredients which need to be balanced with other ingredients of democratic street. Street history and usage of street should represent characteristics of SoHo neighborhood.

I will produce the site selection map with the explained analysis steps in this step.

Step 2: build an easy-to-use quantitative evaluation system based on the democratic street concept

Build an easy-to-use quantitative evaluation system to measure the democratic street ingredients will be helpful for us in determine if a street is genuine democratic. Also, it helps to identify and isolate problems. By studying the data and using the quantitative approach to measure current streets in SoHo, we can find the problem and its root cause. Based on the analysis, we can try to develop alternative solutions to enhance the SoHo street experience.

The product of this step will be a quantitative evaluation system based on the concept of democratic street. It will be verified against existing case studies.

Step 3: site inventory

Study will focus on the history of selected site and current conditions. More site visit will be conducted to identify the users and users' type, traffic, existing space usage, the number of visitors, the number of residents, current community relationship and so on. Take photograph of visual resources, building details, conditions of vacant space, local street furniture, signs and any cultural indicators.

Step 4: site analysis

Use the quantitative approach to evaluate the data collected from the selected site in SoHo. By using quantitative analysis, identify and isolate problems as well as make the conclusion of issues and opportunities.

Step 5: preliminary design

Program development

The information obtained from step four will be reviewed and evaluated as the consideration of constraints of the selected site in order to determine the necessary program elements and relationships.

Concept development

The design concept is the grounding framework for the design solution. The concept begins developing at the same time the project begins and is informed by variables throughout the investigation. Development of the design concept requires consideration of all of the experiences of investigation to this point. A thorough understanding of the concept of democratic streets is desired.

Design development

The development of a design solution must respond to all of the research, investigation, and analysis that have been completed to this point. The design will be grounded to the concept; respond to the program needs, incorporate the revised design recommendations, and acknowledge the site-specific issues and needs in order to propose a solution of applying the democratic street in SoHo to improve the pedestrians' environment.

To develop preliminary design, individual articulation of programming elements will be done through perspective, plan, section and elevation sketches, as well as 3-D computer modeling.

These articulations will be critiqued by my capstone committee as well as my student peers.

At this step, a report of preliminary design process, the development of design concept and the draft of the plan design, perspective, section and elevation sketches as well as 3-D computer modeling will be produced.

Step 6: final design

With the suggestions and feedback, the final design will be phased into three stages of design to demonstrate the immediate, intermediate, and advanced levels of design interventions and how each can improve the pedestrians' environment of the site with the elements of democratic street. The phases will highlight the met and unmet needs of each research methods, illustrate the opportunities and constraints of the site, and explain how each design solution can make improvements.

Deliverable

The following deliverables are expected from each step mentioned above

Step 1:

- Site selection map
- A report of explained analysis steps

Step 2:

- The quantitative evaluation system of the democratic streets

Step 3:

- Background information
- Photograph of the selected site

Step 4:

- Existing site condition plan
- The tables of comparison statistics,
- An explained report of analysis steps, conclusion of issues, opportunities.

Step 5:

- A report of preliminary design process and the development of design concept
- The draft of the plan design, perspective, section and elevation sketches as well as 3-D computer modeling.

Step 6:

- Annotated master plan of the final design solution
- Phased design solutions detailing the selected site in SoHo

Schedule

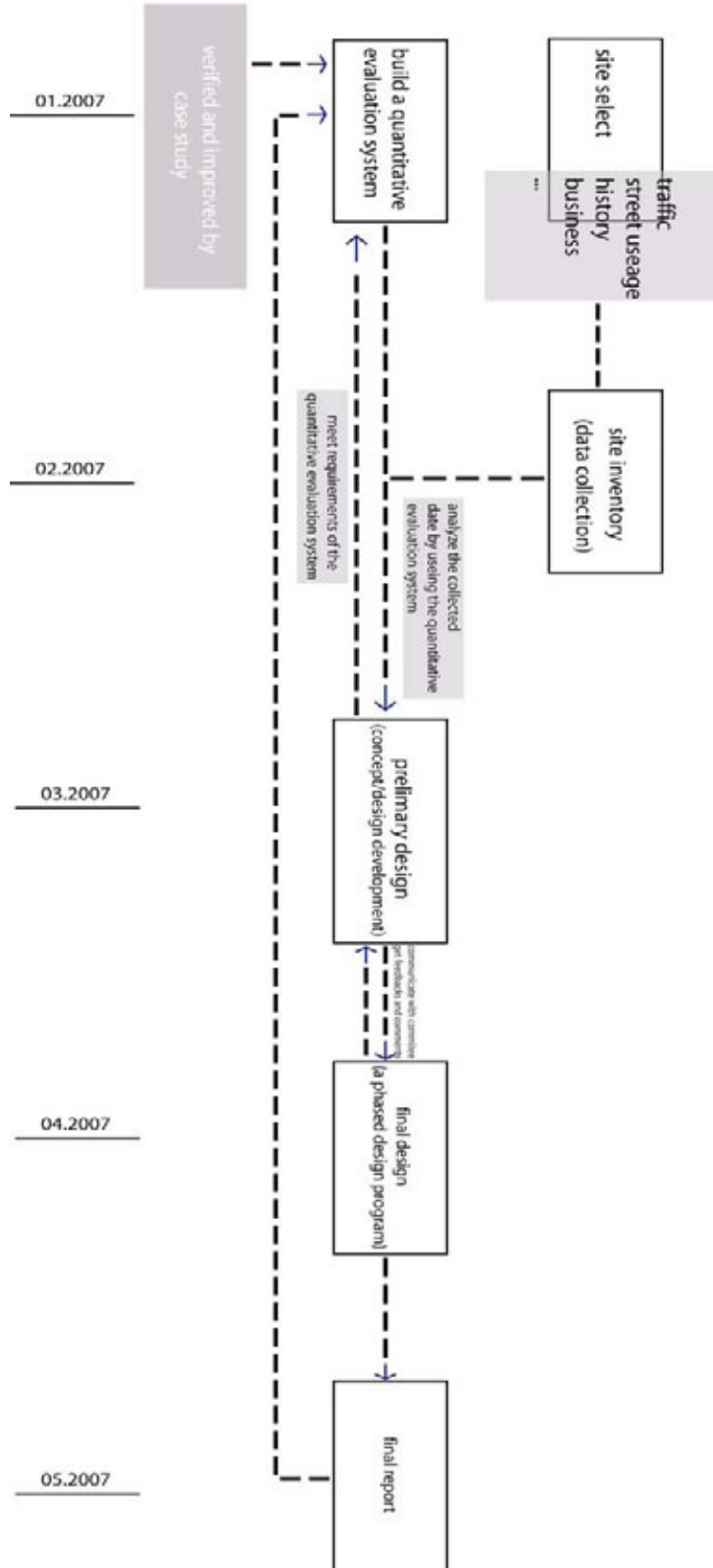


Figure 19: Project schedule diagram

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