

Streetscape Study of Lower Manhattan

An Analysis of the Sidewalk Features and
Public Space of Manhattan Community District 1

Prepared for
Manhattan Community Board 1

Prepared by
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1.0 Introduction

“There is nothing as important to the pedestrian of the inner city as attractive and well-functioning sidewalks.”

Peter Bosselmann, *Urban Transformation: Understanding City Form and Design*

New York City is the most pedestrian-friendly city in the United States, with 31% of all trips made by foot.¹ While NYC has made great strides in the safety and accessibility of its sidewalks, there are noticeable areas for improvement in the mobility and appeal of the streetscape.

Successful sidewalks not only increase neighborhood safety and promote equitable access, they also provide unobstructed pathways for movement and are aesthetically pleasing enough to double as public spaces for gathering. NYC’s streetscape shapes the way residents experience the city, and residents deserve successful sidewalks.

Manhattan Community District 1 encompasses some of the city’s most complex streets and sidewalks. The *Streetscape Study of Lower Manhattan* will evaluate the mobility and appeal of the streetscape in the District,² and is divided into two phases:

Phase 1: Sidewalk Feature Inventory

Phase 2: Community Assessment Survey

The sidewalk feature inventory will analyze the existing sidewalk conditions in terms of the location and quantity of 18 sidewalk features. Phase 1 will determine which sidewalk features enhance the streetscape and which create obstacles for pedestrian flow. Phase 2, the community assessment survey, will capture resident and visitor opinions of the District’s sidewalks that will provide insight into the user experience. Finally, this report will combine existing conditions with community input to offer design and policy recommendations that could improve the overall pedestrian experience in Manhattan Community District 1.

1 NYC Department of Transportation.

2 Inspiration and framework for this report provided by the *Corey Johnson Mapping Report*.

1.1 Manhattan Community District 1

Manhattan Community District 1, also referred to as Manhattan Community Board 1 (CB1), is one of New York City's 59 community boards. Community boards allow residents to actively shape their neighborhoods, and Board Members to advise government agencies on the direction of development in the District.

CB1 is located in the southernmost portion of Lower Manhattan below Canal Street. The District also includes Governors Island, Ellis Island, and Liberty Island; however, this study will only examine the mainland. CB1 is divided into four neighborhoods, each with their own identity and needs: Battery Park City, the Financial District, Seaport / Civic Center, and Tribeca.

In 2015, the estimated population of the District was 67,768.* The total land area of CB1 is 955.6 acres, or roughly 1.5 square miles, which creates a population density of **45,179 people per sq mi** or about 71 people per acre. This number is almost double the average population density for NYC as a whole, at 26,403 people per sq mi.

Figure 1.1: Map of CB1.



* See Population Change Update.

1.2 The Challenge

The two challenges for Manhattan Community Board 1 are that the District’s high population density is only expected to increase further through increased real estate and transit investments, and second, that the aging sidewalk infrastructure is already plagued with mobility issues that have not been adjusted to meet the demands of growth.

Growth

1. More People Live Here and Visit

- More residents move to the District as more commercial buildings are converted to residential
- Increase in visitors after the completion of the WTC site

2. Increased Investment

- Real Estate - residential and commercial
- Public Transit

Mobility Issues

1. High Density

- Residential growth and investment brings construction and scaffolding
- Increase in density intensifies the competition for sidewalk space

2. Colonial Street Grid

- Street and sidewalk dimensions are restricted and irregular
- Many intersections create hazards and confusion

Figure 1.2: Lower Manhattan’s Growth.



Source: Make Way for Lower Manhattan.

With the combined impact of population growth and increased investment, coupled with the long-standing challenges of density and sans street grid, the questions for the District is:

Can CB1’s sidewalks handle the population growth and mobility issues?

2.0 Phase 1: Sidewalk Feature Inventory

The *Streetscape Study of Lower Manhattan* was developed to examine and address the mobility challenges facing CB1. Phase 1, the sidewalk feature inventory, examines the existing conditions of Lower Manhattan’s sidewalks by cataloging the location and quantity of 18 sidewalk features:

- benches
- bike racks
- bus stops
- emergency boxes
- fire hydrants
- light fixtures
- mailboxes
- maps
- news boxes
- newsstands
- pay phones
- planters
- recycling bins
- street signs
- subway entrances
- trash cans
- trees
- tree pits

2.1 Methodology

Selection of Features

The 18 sidewalk features were selected in partnership between the Community Board and the Planning Fellow. Both parties decided that the scope of this study will focus on permanent and tangible features that could be documented clearly and accurately. Additionally, any features that would require physical measuring or judgment of condition were too time-intensive for the students who performed the data collection. Features and considerations not included in this study (which should be considered for future studies) are:

1. Sidewalk widths
2. Sidewalk conditions (pavement quality and cleanliness)
3. Mobile or changing features (scaffolding, vendor carts, garbage, etc.)
4. Features with publicly available data (Citi Bike, homeless concentrations, etc.)

Areas Not Surveyed

Since the focus of this study is on the sidewalks and streetscape of CB1, the Community Board and Planning Fellow determined that the features within State and City Parks will not be documented. This only affects Phase 1 data, and is an additional source of consideration for future studies.

2.0 Phase 1

Data Collection

To begin, the four neighborhoods of the District - Battery Park City, the Financial District, Seaport / Civic Center, and Tribeca - were further divided into zones of equal size, with 10 zones total.

Twenty Pace University undergraduate students were divided into pairs and each pair was assigned one zone to survey. Each street feature that could be categorized into one of the 18 were counted and logged according to the closest building address or street intersection. If the building address was not visible, the students used their smart phones to access a mapping application to determine the location.

To log features at corners and intersections, the street names and cardinal direction of the corner (NE, NW, SE, SW) were recorded. The data collectors continued cataloging the features in their zone until the entire zone was surveyed.

Figure 2.1: Sample Survey Sheet.

Neighborhood: Tribeca		Zone: A		Date: 10/14/2015		Time: 1:30pm - 4:30pm	
Direction (NE, NW...)	Street Address / Intersection	#	Feature	#	Feature	#	Feature
	414 Washington Street	6	street lamps	1	trash can	3	trees
	" "	1	street sign	1	fire hydrant		
NW	Hudson and Franklin	2	street signs	1	bus stop	2	trash cans
SW	Hudson and Franklin	1	mail box				
	88 Thomas Street	1	pay phone	1	emergency box		

After all teams completed surveying, the data was transferred into a master Excel file. The master file was then organized, cleaned and corrected to increase location accuracy, which included adding zip codes to all addresses and locating addresses without street numbers. Finally, the feature addresses were uploaded to ArcGIS and run through the geolocator to connect the building addresses to a coordinate points that could be spatially displayed on a map and analyzed.

For the complete set of Phase 1 survey materials, please see *Appendix 1: Materials for Conducting the Sidewalk Feature Inventory*.

2.0 Phase 1

2.2 Results

In total, **6,994 sidewalk features** were cataloged in the District.

Figure 2.2: Total Sidewalk Feature Count and Breakdown by Neighborhood.

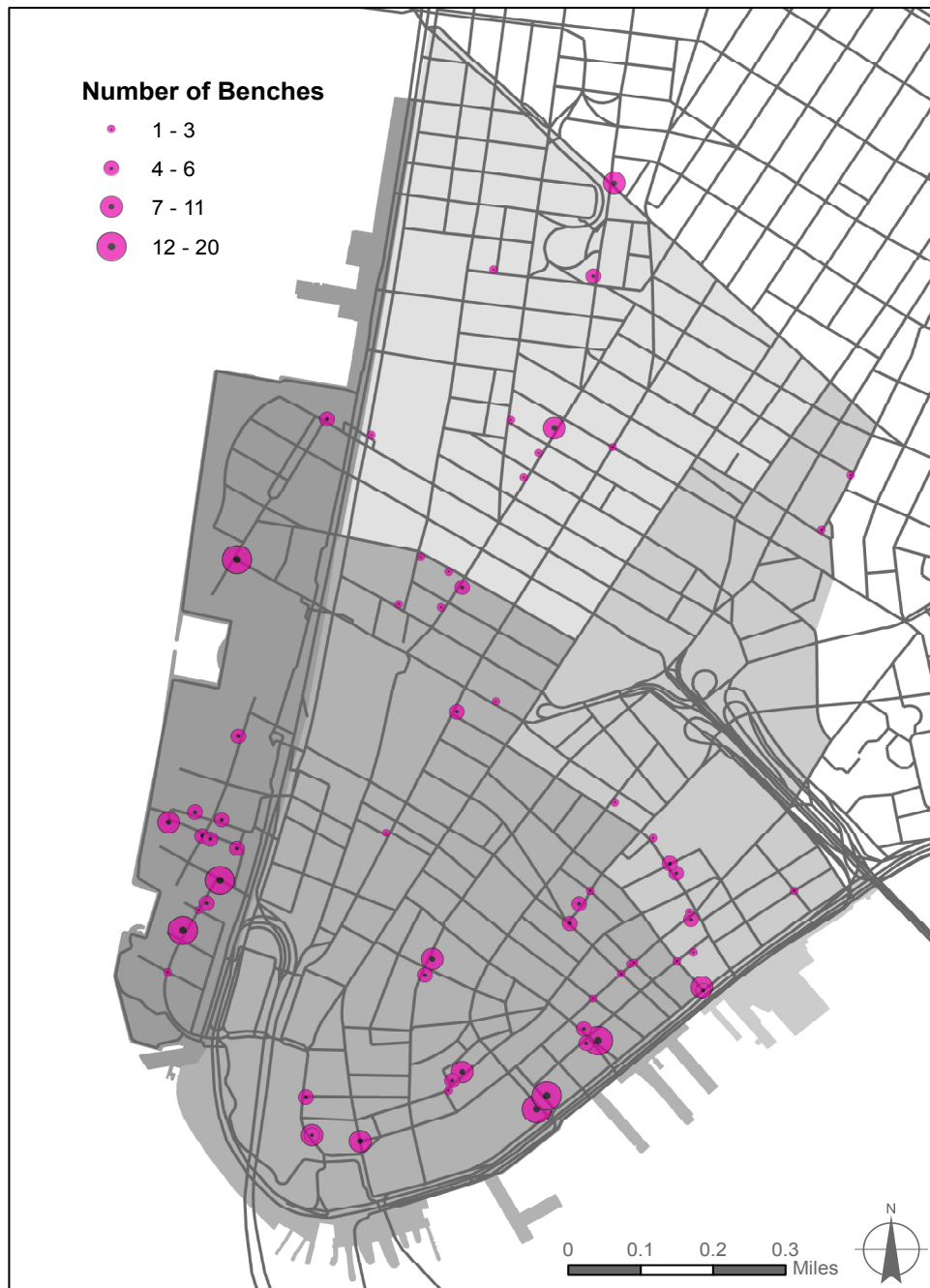
Feature	Battery Park City		Financial District		Seaport / Civic Center		Tribeca		TOTAL
	#	%	#	%	#	%	#	%	
Bench	89	25%	160	45%	48	13%	60	17%	357
Bike rack	93	36%	87	34%	16	6%	59	23%	255
Bus stop	10	17%	32	54%	10	17%	7	12%	59
Emergency box	18	25%	29	41%	15	21%	9	13%	71
Fire hydrant	61	13%	240	50%	93	19%	83	17%	477
Light post	359	26%	594	43%	257	18%	186	13%	1396
Mailbox	14	7%	122	63%	39	20%	18	9%	193
Map	0	0%	5	100%	0	0%	0	0%	5
News box	24	13%	63	35%	55	31%	36	20%	178
Newsstand	0	0%	29	83%	4	11%	2	6%	35
Pay phone	1	1%	98	70%	22	16%	19	14%	140
Planter	0	0%	269	75%	34	9%	57	16%	360
Recycling bin	32	13%	144	61%	48	20%	14	6%	238
Street sign	58	4%	727	50%	291	20%	374	26%	1450
Subway entrance	0	0%	52	81%	6	9%	6	9%	64
Trash can	83	20%	89	21%	126	30%	122	29%	420
Tree	547	43%	267	21%	201	16%	244	19%	1259
Tree pit	0	0%	32	86%	0	0%	5	14%	37
TOTAL	1389		3039		1265		1301		6994

2.0 Phase 1

Benches

Sidewalk benches are concentrated in lower Battery Park City and the Financial District. Tribeca and the north end of the Seaport are lacking sufficient benches.

Figure 2.3: Number of benches by street address or intersection.

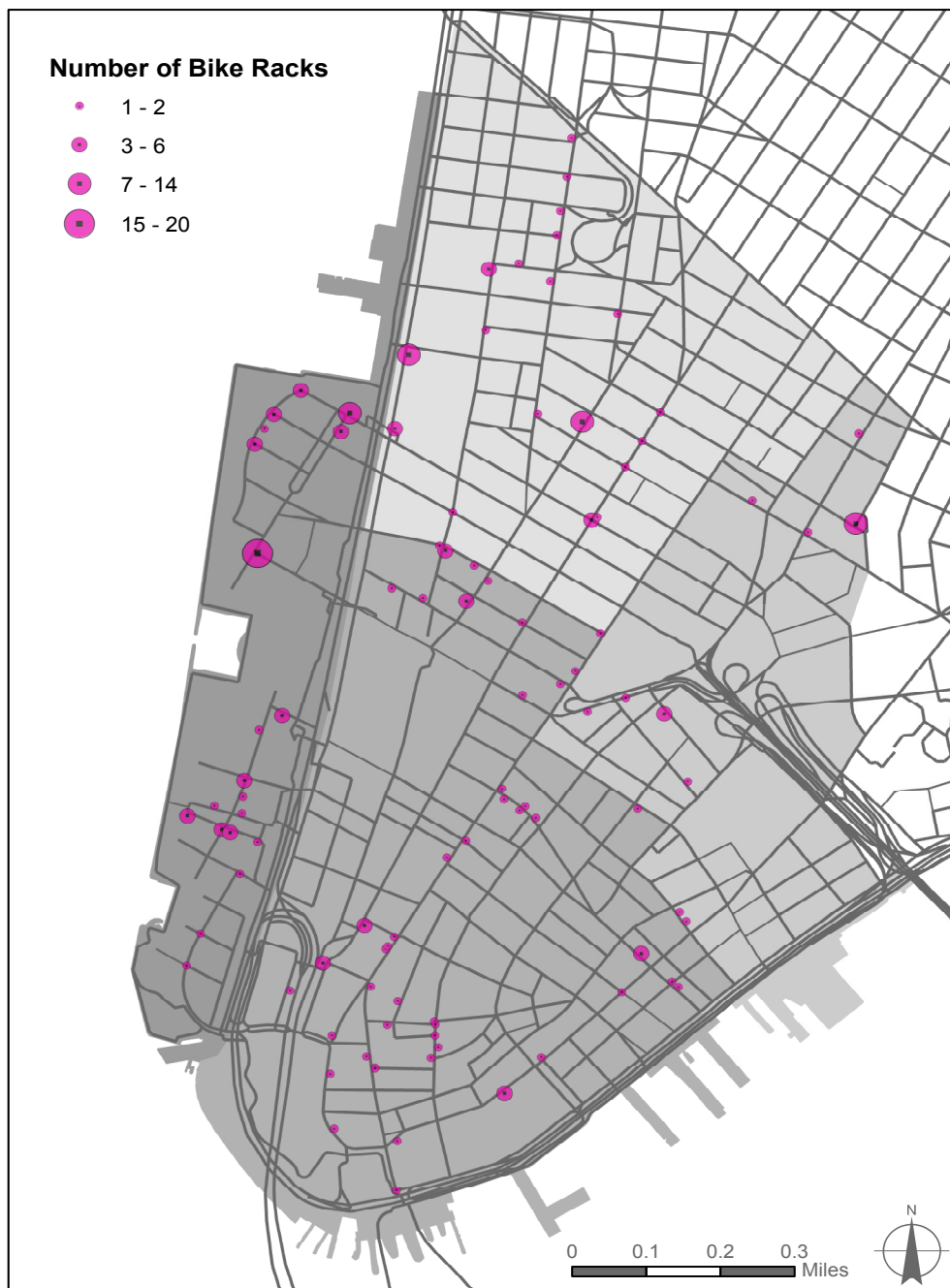


2.0 Phase 1

Bike Racks

There is an uneven dispersion of bike racks throughout the District.

Figure 2.4: Number of bike racks by street address or intersection.

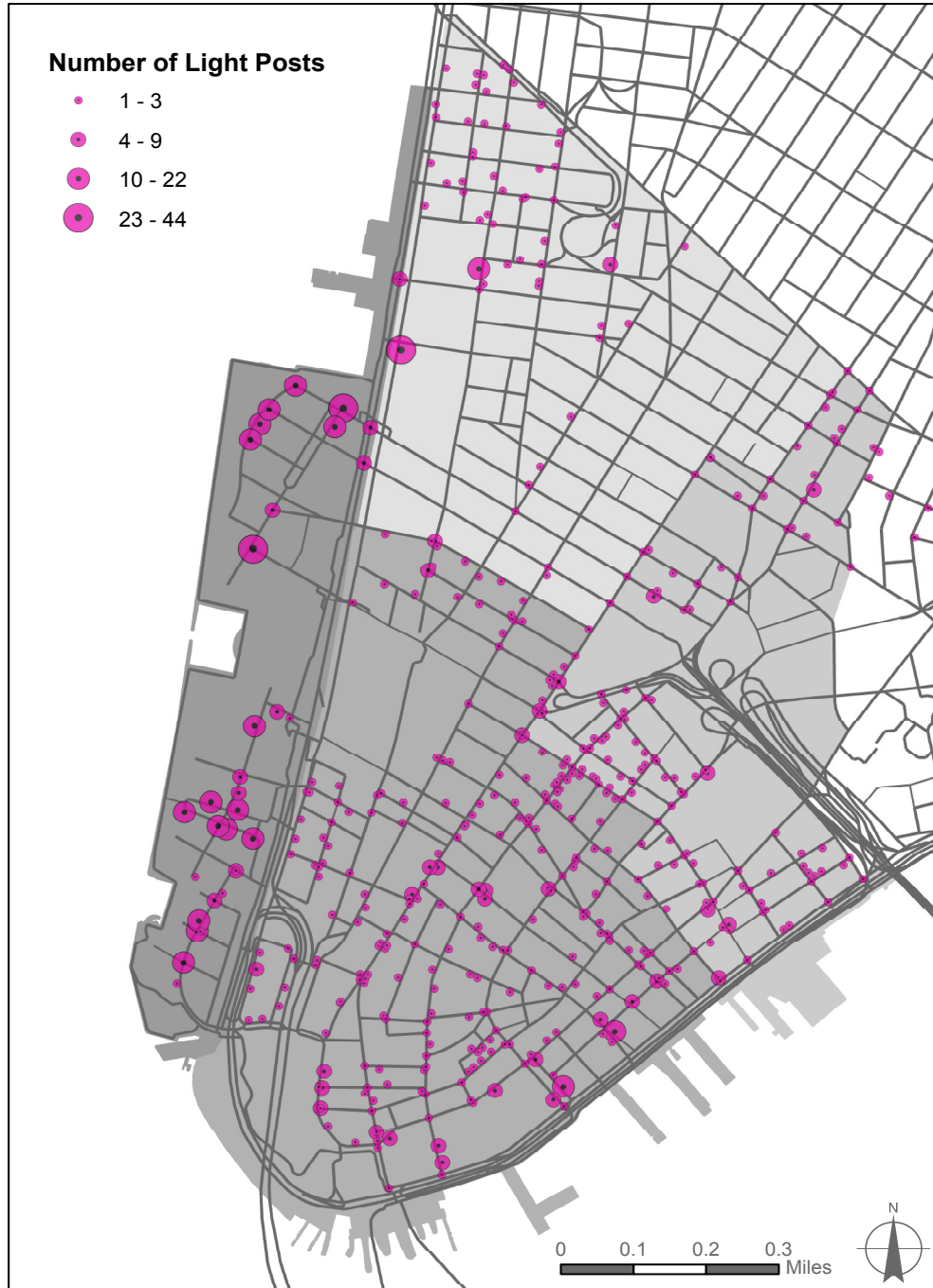


2.0 Phase 1

Light Posts

There is a high number and even distribution of light posts throughout the District.

Figure 2.5: Number of light posts by street address or intersection.

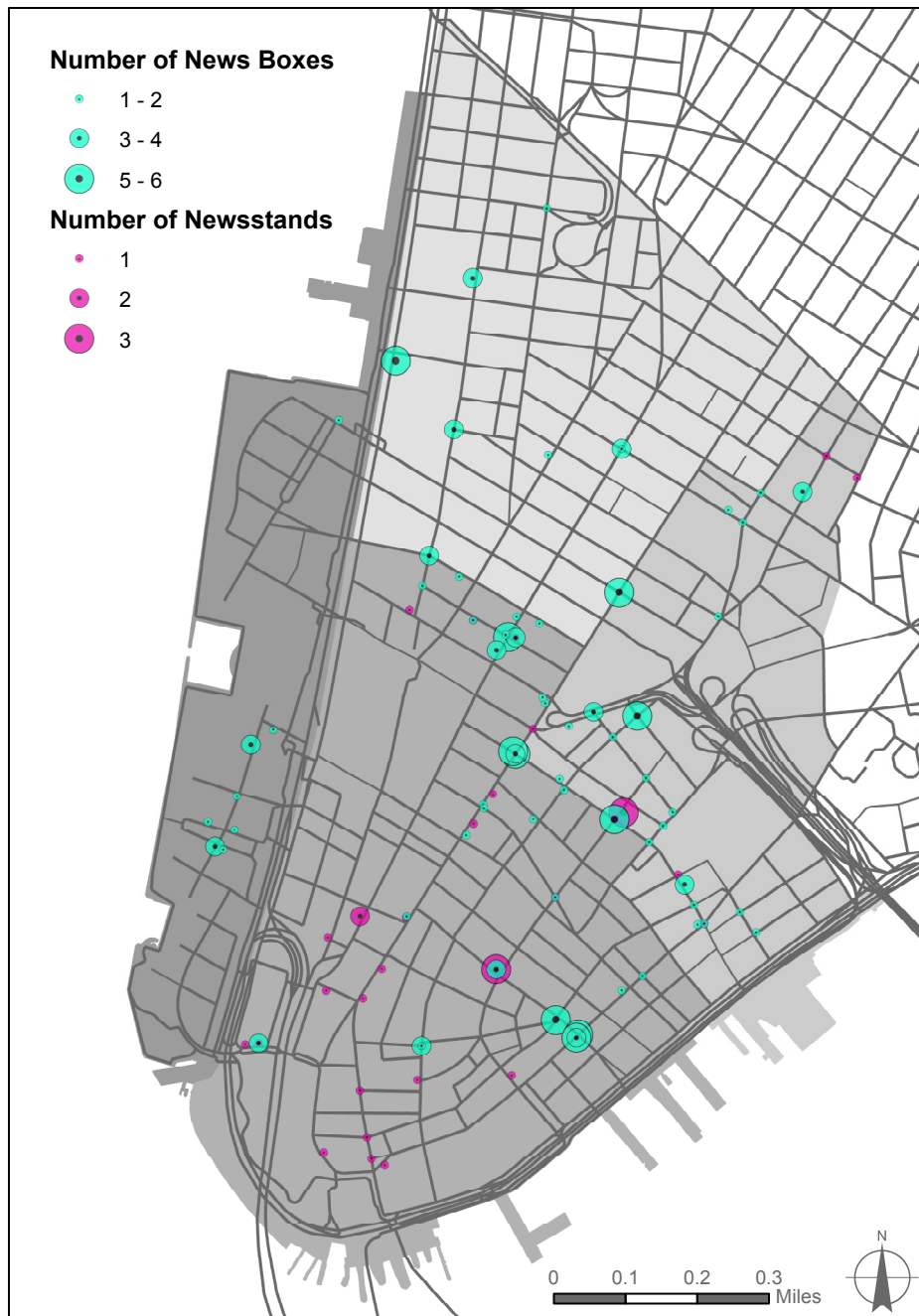


2.0 Phase 1

News Boxes and Newsstands

News boxes are found in clusters that are dispersed throughout the District. Newsstands are concentrated in the Financial District.

Figure 2.6: Number of news boxes and newsstands by street address or intersection.

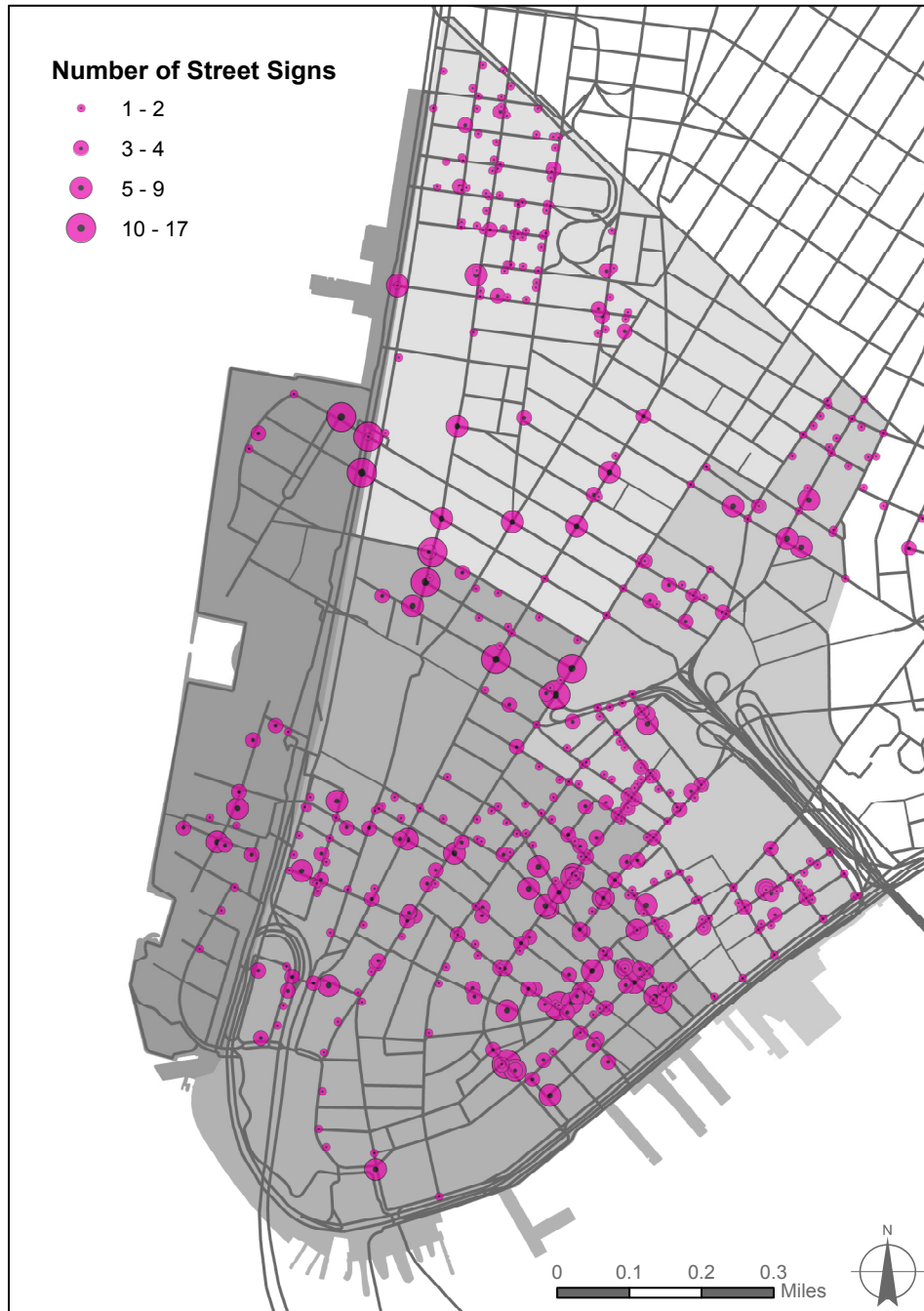


2.0 Phase 1

Street Signs

The Financial District has a high concentration of street signs.

Figure 2.7: Number of street signs by street address or intersection.

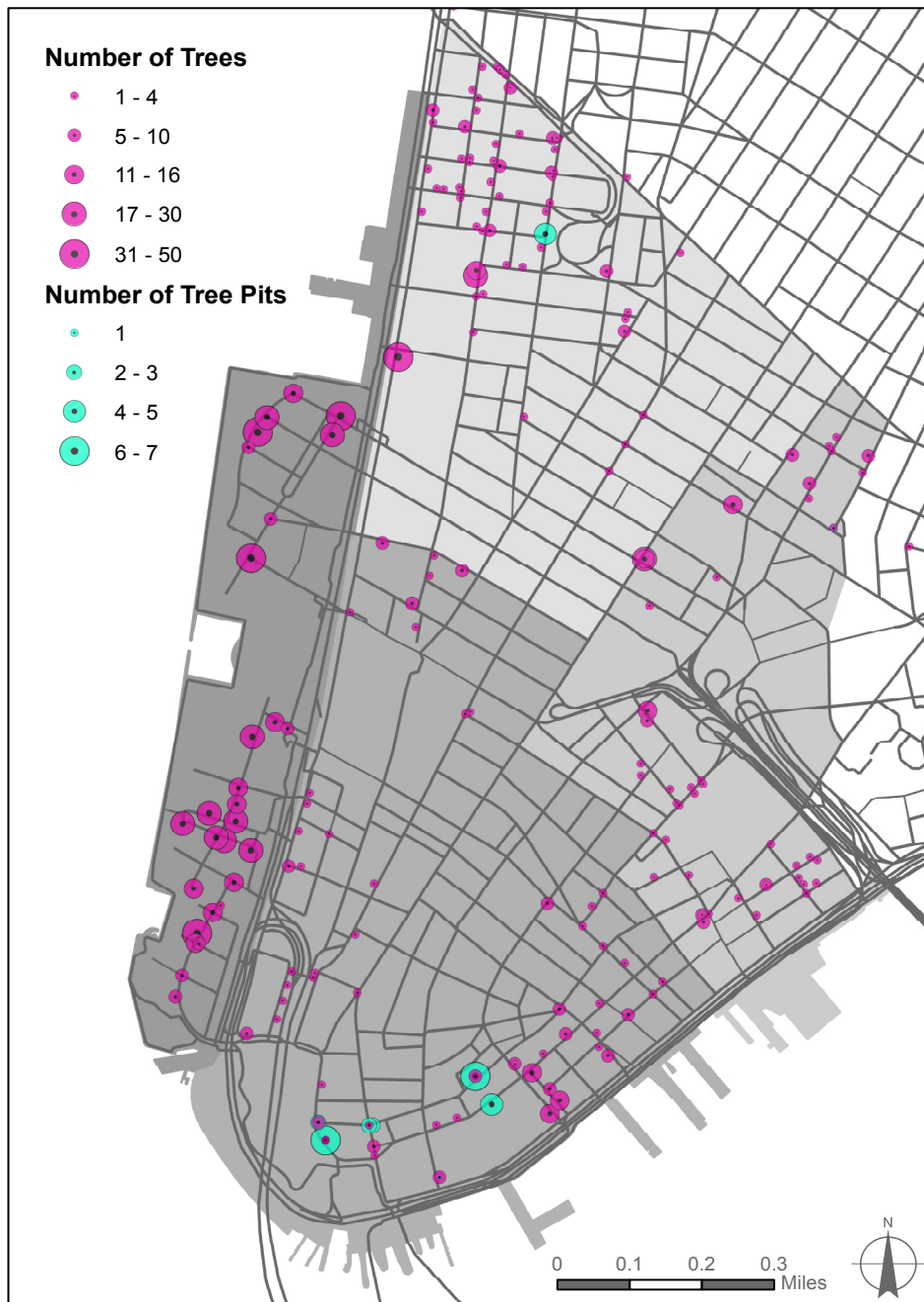


2.0 Phase 1

Trees and Tree Pits

Battery Park City has the highest count of trees, while the Financial District contains the most tree pits.

Figure 2.8: Number of trees and tree pits by street address or intersection.

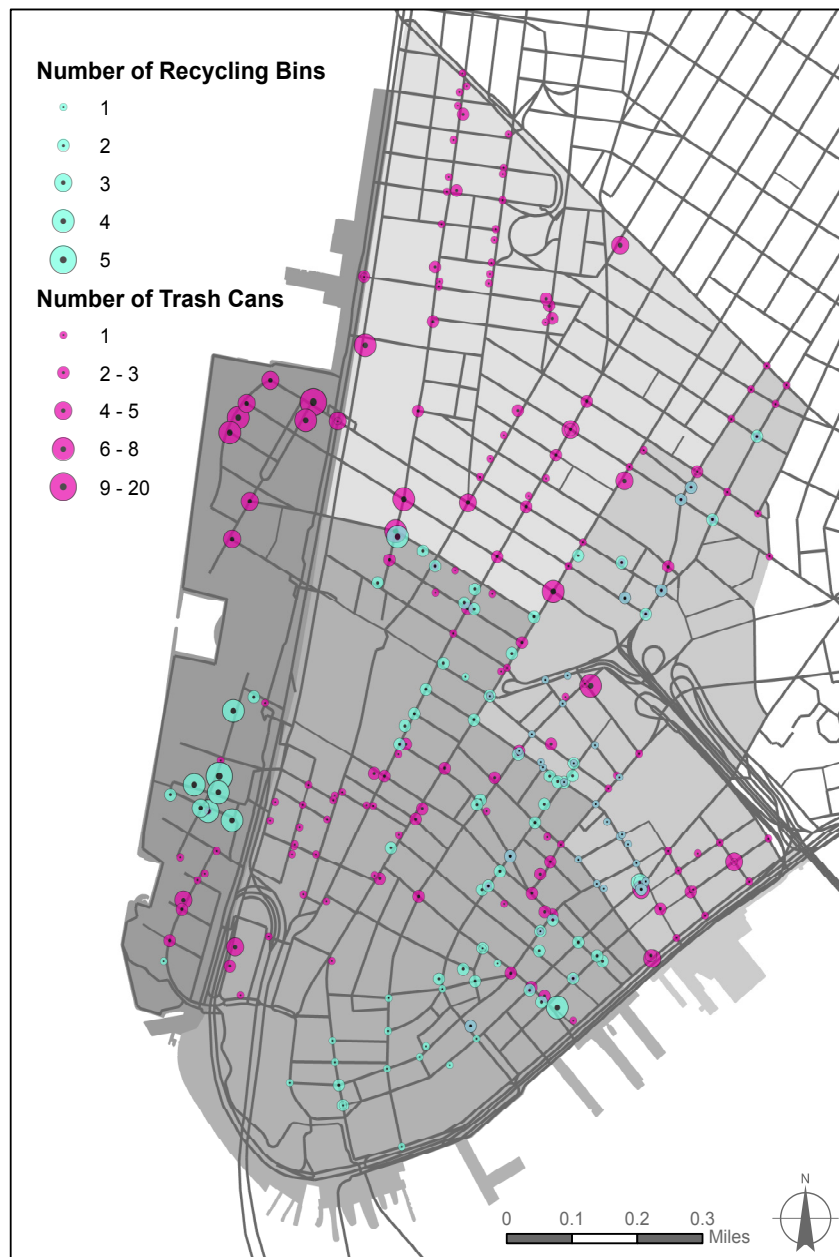


2.0 Phase 1

Trash Cans and Recycling Bins

The entire District does not provide both resources at the same site. Also, Tribeca contains only 16 recycling bins concentrated in the south of the neighborhood.

Figure 2.9: Number of trash cans and recycling bins by street address or intersection.



For the remaining maps of sidewalk features, see *Appendix 2: Maps of the Remaining Features from the Sidewalk Feature Inventory*.

2.0 Phase 1

2.3 Margin for Error

In a study with nearly 7,000 data points, there will likely be a margin for error. It is possible that errors occurred in four steps of this study, including the explanation of the study, the data collection, the transferring of data from pen and paper to Excel, and the geocoding process.

After collecting the data, we found that two groups did not survey their entire zone and two groups did not include the street number on their addresses. Additional data collection was performed to fill in the gaps. However, a few noticeable gaps remain in the data, which is evident in the northeast section of Tribeca.

When the data was transferred from the paper survey sheets to Excel, there was another opportunity for error. The surveys were manually entered into spreadsheets so it is possible that the data set had typos. However, multiple quality checks were performed throughout the data entry process to reduce typing errors.

Finally, the raw Excel data was prepped for ArcGIS and then converted to coordinates through a process called geocoding, which transforms address data into points that can be mapped. Roughly 30% of the raw data was categorized as “tied” (when the address matches to multiple points) or “unmatched” (the address data is unclear or does not have a reference in the geocode system). After repairing the tied and unmatched data, only 0.5% of the data (28 points) did not have a legible match. Also, after the matching process, there were some points that fell outside of the District boundaries, which is also due to inaccuracies in recording or geocoding; however, these points only totaled to about 20, a negligible number considering the large data set.

2.0 Phase 1

2.4 Analysis

The sidewalk features count, density, and distribution show that Lower Manhattan's pedestrian corridors vary widely between neighborhoods.

Battery Park City

Battery Park City has some of the healthiest sidewalks in the District. The neighborhood contains roughly 43% of the entire District's trees, with zero tree pits. Given that data collectors were instructed not to survey inside of the neighborhood's many parks, the data indicates that the sidewalks themselves contain an adequate number of trees and that the trees are well maintained. Notice the relatively even distribution of trees across the neighborhood in Figure 2.8.

The neighborhood is also home to 25% (89) of the District's benches, 36% (93) of bike racks and 20% (83) of trash cans. All three of these numbers are high given the neighborhood is the smallest in the district. Also, it is important to note that most of Battery Park City's benches are concentrated in the southern portion of the neighborhood. Finally, the neighborhood does not contain any way finding maps, and while Battery Park City is more residential than the other three neighborhoods, it still draws enough tourists in the area to warrant sufficient maps and informational signs.

Financial District

The Financial District contains the District's most complex sidewalks. FiDi is also the largest neighborhood in the District by land area, so while the counts were high for each street feature they all had to be examined further. The neighborhood is well-served by transit with 32 bus stops and 52 subway entrances. It also appears to be well-lit, as there are almost 600 light posts throughout the community, which are evenly spread. FiDi also has the largest number of planters (269), but they are centered in publically owned private spaces and plazas, rather than dispersed throughout the neighborhood.

There are many areas for improvement in FiDi. The neighborhood has 98 pay phones left on its sidewalks. While the City plans to turn these outdated structures into Wi-Fi hot spots, as they currently stand, they block the pedestrian walkway.

2.0 Phase 1

2.4 Analysis (cont'd)

Street signs are also a major concern for FiDi, with 727 poles spread throughout the community - some with and some without signs. Given the high density of street signs, it would seem that some of them could be condensed and multiple sources of information could be provided on one pole. Additionally, FiDi lacks sufficient street trees, with only 267 (or 21%) for the District's largest neighborhood, and contains the largest number of tree pits.

Seaport / Civic Center

The sidewalks of the Seaport and Civic Center neighborhoods are dissected by the Brooklyn Bridge. The neighborhood is seemingly well-served by most of the sidewalk features inventoried in this study. There is a high number and even distribution of trash cans, recycling bins, and light posts, which may indicate that the neighborhood has the capacity to contain pedestrian waste and can also sufficiently illuminate their pathways.

However, the neighborhood contains only 16 bike racks, 48 benches, and 34 planters, most of which are concentrated along the Fulton Street corridor, in the Seaport section of the neighborhood. The Civic Center's sidewalks have few of these three features.

Tribeca

Tribeca contains the District's most orderly sidewalks, with a traditional grid and relatively even distribution of features. The neighborhood is moderately well-served by bike racks, and has a high count and even dispersion of trash cans. These figures fit well into the fact that Tribeca, along with Battery Park City, are two historically residential neighborhoods.

While the data shows that bike racks and trash cans are plenty, Tribeca has many areas for improvement. The neighborhood contains a low count of benches (60) for its area, has an dramatically uneven distribution of light posts and trees, and very few recycling bins (14). These figures indicate that there may not be enough pedestrian seating, portions of the neighborhood are not well-lit for safe passing, and both residents and tourists are not given the option to recycle.

3.0 Phase 2: Community Assessment Survey

After the sidewalk feature inventory was complete, it was clear that community input was needed to develop relevant recommendations. The community assessment survey was designed to complement the sidewalk feature inventory. The survey captures user input regarding the condition of Lower Manhattan’s sidewalks based upon sufficient street furniture and the obstacles that clog walkways, and also to provide an opportunity for resident feedback for streetscape improvements. It was administered in March 2016.

3.1 Methodology

The Survey

In the planning stages, it was determined that the survey must be short and straightforward enough to keep someone’s attention but also ask enough questions to gain adequate insight into the community’s opinion. Therefore, a concise six question survey that takes five minutes or less to answer was developed.

Figure 3.1: Community Assesment Survey.

Interviewer Name:	Date:	
Manhattan Community Board 1 – Sidewalk Assessment Survey		
1. You are in this neighborhood today because you are:		
<input type="radio"/> Working here <input type="radio"/> Living here <input type="radio"/> Shopping here <input type="radio"/> Studying here <input type="radio"/> Visiting sites here		
2. Please rate the <u>condition</u> of the sidewalks in Lower Manhattan (below Canal Street) based upon sufficient street furniture (benches, planters, trees, trash cans, etc.):		
<input type="radio"/> Excellent <input type="radio"/> Good <input type="radio"/> Sufficient <input type="radio"/> Fair <input type="radio"/> Poor		
3. What <u>three (3) obstacles</u> contribute the most to sidewalk congestion in Lower Manhattan?		
<ul style="list-style-type: none"> • benches • bike racks • bus stops • emergency boxes/posts • fire hydrants • light fixtures/posts 	<ul style="list-style-type: none"> • mailboxes • maps • newsstands • news boxes • pay phones • planters 	
<ul style="list-style-type: none"> • recycling bins • street signs • subway entrances • trash cans • trees • tree pits 		
1. _____	2. _____	3. _____
4. What are <u>three (3) improvements</u> to the streetscape that you would like to see?		
1. _____	2. _____	3. _____
5. Respondent characteristics:		
<u>Age</u>		
<input type="radio"/> Under 21 <input type="radio"/> 21 – 35 <input type="radio"/> 36 – 50 <input type="radio"/> 51 – 65 <input type="radio"/> 66 or over		
<u>Gender</u>		
<input type="radio"/> Female <input type="radio"/> Male <input type="radio"/> Other		
6. Location of interview. Address (number and street) or cross streets: _____		

3.0 Phase 2

Administering the Survey

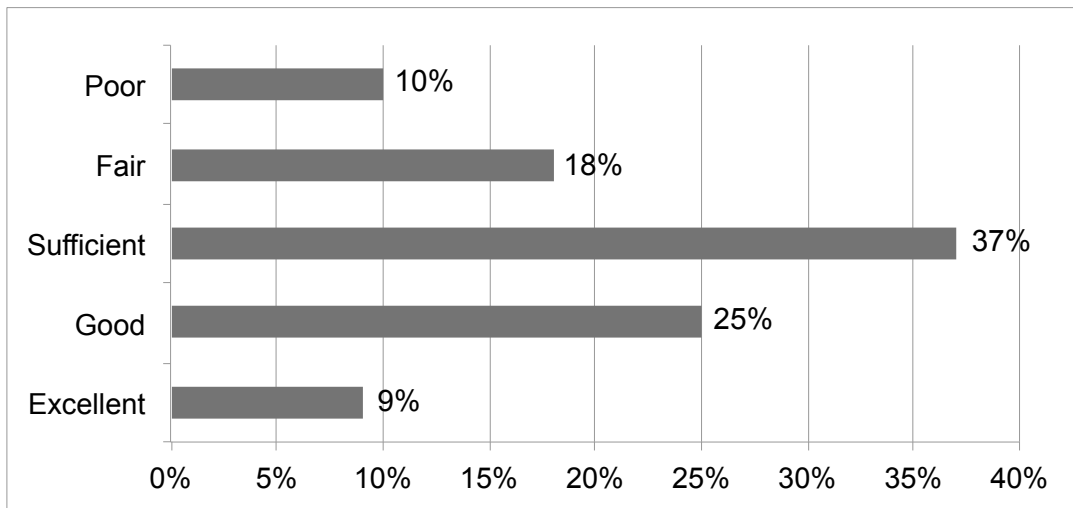
To administer the survey, twenty-five intersections were chosen for their high frequency of foot traffic and even distribution across the District. Similar to Phase 1, Twenty-five Pace University undergraduate student data collectors were assigned a different intersection and instructed to administer 15 surveys to the public over a period of three weeks.

For the complete set of Phase 2 survey materials, please see *Appendix 3: Materials for Conducting the Community Assessment Survey*.

3.2 Results

In total, **354** community assessment surveys were completed in the District, which includes 134 in the Financial District, 79 in Tribeca, 76 in Seaport / Civic Center, and 65 in Battery Park City. The responses to the surveys are as follows:

Figure 3.2: (Q2) Please rate the condition of the sidewalks in Lower Manhattan based upon sufficient street furniture:



3.0 Phase 2

3.2 Results (cont'd)

Figure 3.3: (Q3) What three obstacles contribute the most to sidewalk congestion in Lower Manhattan?

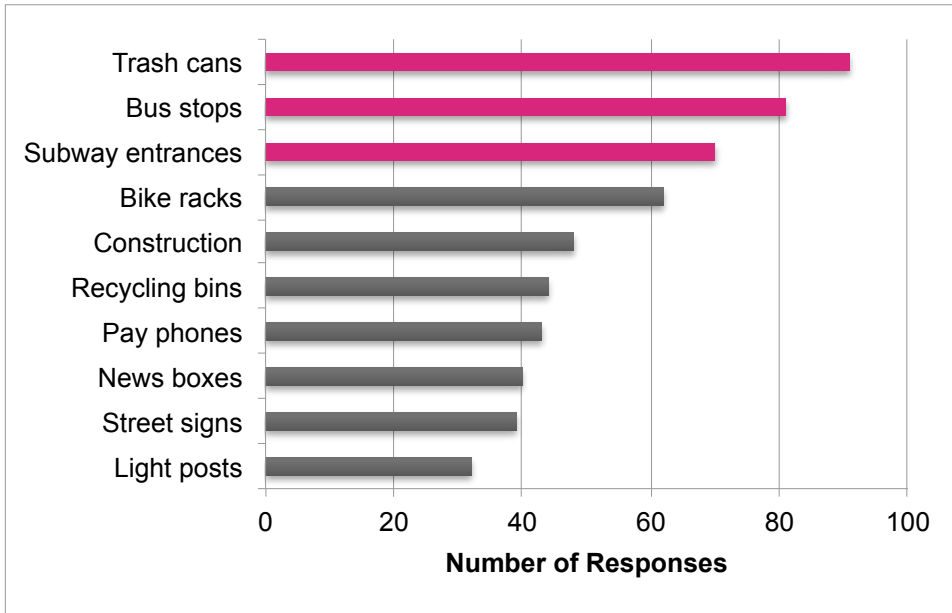
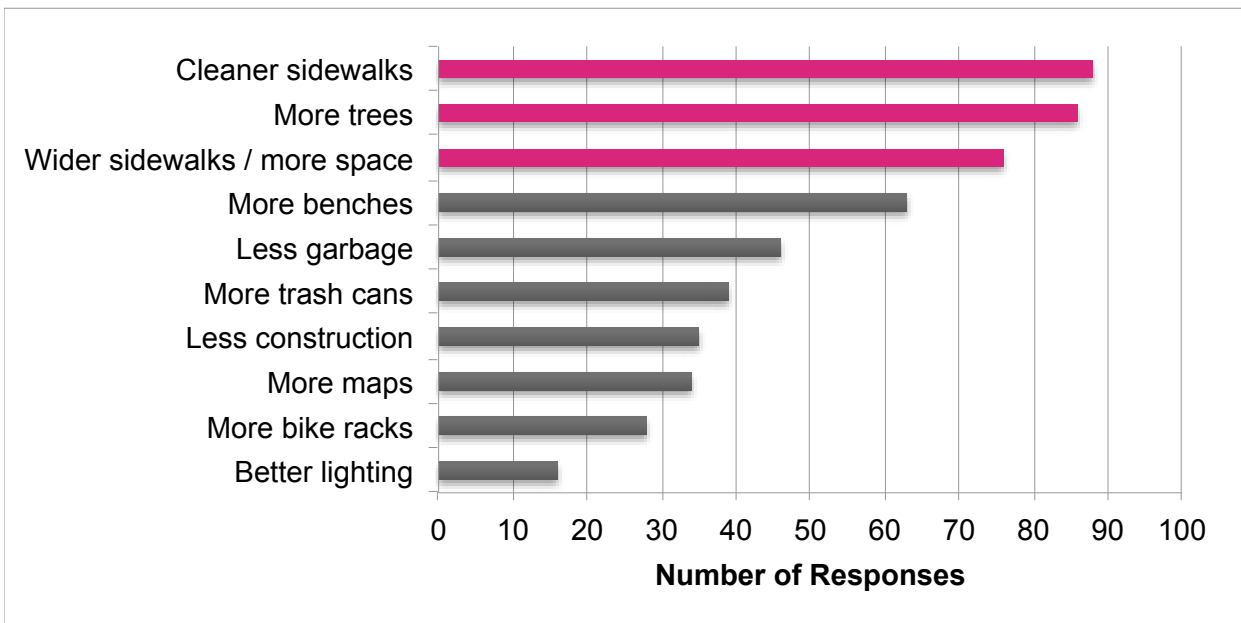


Figure 3.4: (Q4) What are three improvements to the streetscape that you would like to see?



3.0 Phase 2

3.2 Results (cont'd)

Figure 3.5: (Q1) You are in this neighborhood today because you are:

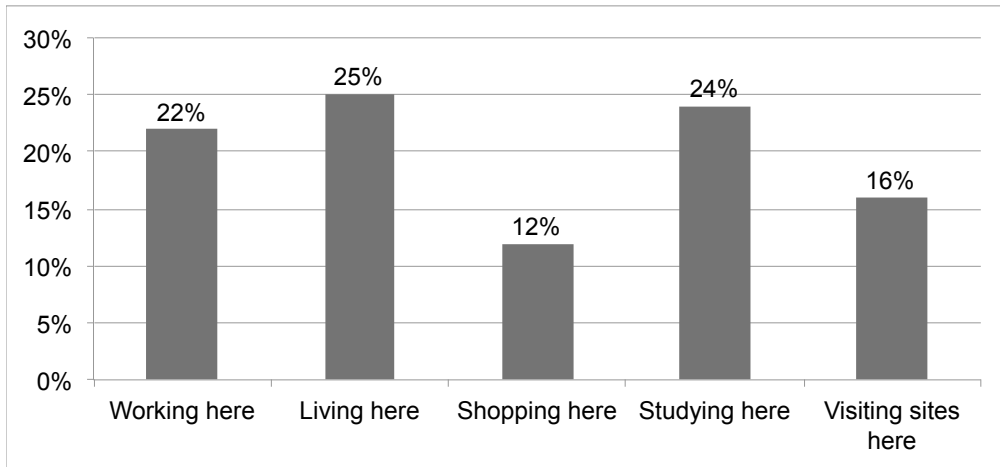


Figure 3.6: (Q5.1) Age

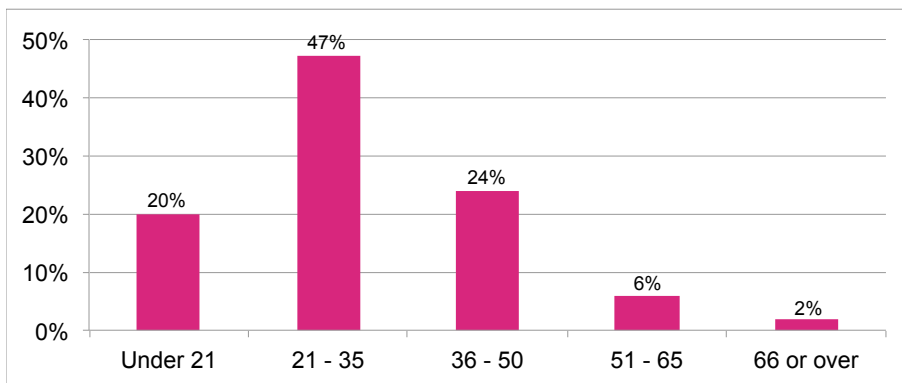
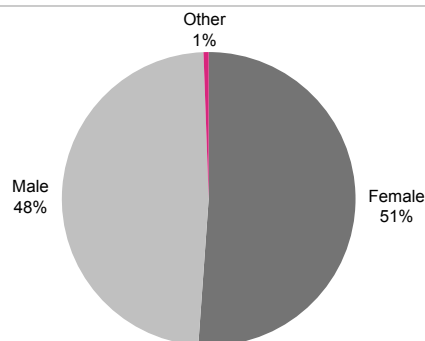


Figure 3.7: (Q5.2) Gender



3.0 Phase 2

3.3 Margin for Error

The Phase 2 study was more straightforward than Phase 1, which made the project easier to describe and to implement. However, Phase 2 also had four potential sources for error including the wording of Question 3 (Q3), the accuracy in collection survey response collection, the transfer of survey responses to Excel, and the sorting of survey responses.

Errors in the sample could have occurred due to the suggested list of features in Q3. The Q3 suggested responses were included to offer options for respondents who had difficulty answering; yet, this list may have directed responses more than anticipated.

Additionally, there may have been errors in recording responses, and after the survey responses were collected, there was an opportunity for error in the transfer of the written surveys to Excel.

Finally, the survey responses for Q3 and Q4 generated many ways to describe the same issue or feature. Therefore, the responses required a line-by-line categorization and count. The data was finely combined to categorize the responses; yet, with 354 surveys of 6 questions each it is possible that some responses were not categorized accurately.

3.4 Analysis

Contrary to the results from Phase 1, the community assessment survey responses did not vary significantly between neighborhoods. Therefore, the results and analysis are not divided into the four neighborhoods.

(Q2) Rate the condition of sidewalks based upon sufficient street furniture.

When asked to rate the condition of sidewalks, the results are evenly distributed with **34%** of respondents rating them as “Excellent” or “Good,” **37%** rated as “Sufficient,” and **28%** rated as “Fair” or “Poor.” These answers seem to suggest that the health of Lower Manhattan’s sidewalks varies greatly from block to block; while some are high-functioning, others are either packed with unnecessary obstacles or lack sufficient services.

3.0 Phase 2

3.4 Analysis (cont'd)

(Q3) Obstacles that contribute the most to sidewalk congestion.

According to the responses, the obstacles that contribute the most to sidewalk congestion across the district are trash cans, bus stops, subway entrances, bike racks, and construction. Trash cans as the most frequent response was surprising, but with further examination of Phase 1's data, it is evident that trash cans are scattered in large numbers throughout the District. While this fact was taken as a positive in Phase 1, Phase 2 indicates that there may be too many of this feature.

Bus stops and subway entrances were the second and third most frequent answer for obstacles. These responses are likely due to the fact that people tend to congregate around transit stations and entrances not only to orient themselves to their surroundings, but also to wait for the transit itself or another party.

Bike racks were also a frequent response, which was surprising considering that the racks are concentrated in specific areas of the District. It is possible that those respondents who view bike racks as obstacles either view bike racks to be unnecessary or may not be bike riders themselves and therefore view any quantity or distribution of this feature as an obstacle.

Finally, construction was the fifth most frequent obstacle listed. This response was expected as Lower Manhattan's changing cityscape has brought scaffolding and debris.

(Q4) Improvements to the streetscape that you would like to see.

The survey respondents would like to see cleaner sidewalks, more trees, and wider sidewalks / more space. While sidewalk cleanliness was not documented in Phase 1 of this study, the overwhelming feedback from respondents that they want cleaner streets and sidewalks is important. An additional study could be conducted to measure the location and quantity of trash in CB1.

Respondents desire for more trees in the District was also very clear. While Figure 2.8 displays healthy density and distribution of trees in specific areas of the District, CB1 as a whole lacks sufficient sidewalk trees. Finally, wider sidewalks or providing more space for pedestrian passage, was a common response. This recommendation will be addressed in the following section.

4.0 Recommendations

Lower Manhattan's unique and complex challenges demand a comprehensive plan. The District's rapid population influx and increased investments in real estate and transit, coupled with inherent mobility issues of high density and a haphazard street grid, must be addressed holistically. However, incremental approaches are useful during the time it takes to approve, fund, develop and conduct a comprehensive study and plan.

4.1 Policy and Design Goals

1. *Increase Mobility*: To provide more space for pedestrian movement
2. *Improve Appeal and Quality of Life*: To increase sidewalk greenery and aesthetic
3. *Incorporate Streetscape Study Data and Community Input*: To include both quantitative and qualitative data

4.2 Proposals

Incremental Approaches

1. Redesign Public Transit Access Points

Reconfigure bus stop, subway, and other public transit entrances to reduce clustering at these sites that impedes the pedestrian flow.

- **Implementation**: A study is needed to determine the feasibility of moving or altering entrances and the specifics regarding location and design. Improved wayfinding at transit entrances should be implemented in conjunction.
- **Impact**: Reduces the occurrence of dense clusters of pedestrians around transit entry points.

2. Improve Sidewalk Sanitation Control and Enforcement

Build upon the existing control and enforcement of sidewalk and gutters sanitation procedures to increase sidewalk cleanliness and improve the public health of the District's neighborhoods

- **Implementation**: Expand the NYC Sanitation Regulation unit to increase residential and commercial support in cleaning sidewalks and increase the fine amount for unkempt sidewalks.
- **Impact**: Sidewalks and gutters will contain less debris, which decreases pedestrian obstacles and improves the sidewalk experience.

4.0 Recommendations

4.2 Proposals (cont'd)

Incremental Approaches (cont'd)

3. Widen Sidewalks / Curb Extensions

Extend sidewalks (or curb extensions / neck-downs) into the roadway (either a parking or traffic lane) to increase the surface area for pedestrian movement.

- **Implementation:** Limit or eliminate off-street parking, and/or reduce the number of street lanes.
- **Impact:** Increases pedestrian safety through traffic calming, reduces sidewalk crowding, and also provides additional space for sidewalk features.

4. Expand or Improve Existing Programs

- **Improve Wayfinding (WalkNYC):** Advocate for the expansion of this program into CB1's neighborhoods.
- **Increase Open Space (DOT Plaza Program):** Continue CB1's success with the program by applying for additional plazas throughout the District.
- **Plant More Street Trees (Parks Department Tree Planting Program):** Use data from Phase 1 and the NYC Parks Department 2015 Street Tree Census to report tree pits to NYC 311 for replanting.
- **Re-imagine Pay Phones as Wi-Fi Hotspots (LinkNYC):** Advocate for the continued expansion of this program throughout all four of CB1's neighborhoods.

4.0 Recommendations

4.2 Proposals (cont'd)

A Comprehensive Approach

As seen in the report *Make Way for Lower Manhattan*, there has not been a comprehensive study of development in Lower Manhattan since the 2007 report, *New York City's Vision for Lower Manhattan*. In the almost ten years since *New York City's Vision*, multiple studies were conducted on specific elements of mobility or in specific neighborhoods. However, given the challenges in the District considered with the data from Phase 1 and the community input from Phase 2, an extensive and District-wide study of mobility in CB1 is needed.

The Special Mobility District*

Designating Lower Manhattan as a “special mobility district” will allow the District’s unique density and mobility challenges to be viewed and addressed together. A designated special district will increase communication and coordination between City Agencies, and can pool the varying sources of funding together to fund a common vision for the District.

1. Expand DOT’s Street Grading System

- Advocate for the expansion of this system to include the condition of sidewalks.
- Develop a system to track the condition of streets and sidewalks over time to provide measurable indicators for the Special Mobility District’s success.

2. Integrate “Smart City” Components

- Develop distinct sanitation and commercial traffic schedules and regulations. Transitioning from standardized schedules to flexible schedules could decrease garbage on sidewalks and help calm traffic. Also, more stringent regulations could require businesses residents to set out garbage closer to the pick-up time, and specific commercial traffic regulations could streamline deliveries.
- Continue the installation of innovative features, such as Big Belly trash cans.
- Introduce new inventive features for resiliency and increased safety.
- Combine functions of specific street features (i.e. a dual trash can/recycling system) that saves additional sidewalk space.

* Concept from *Make Way for Lower Manhattan*.

References

1. C. Flippen. (2016, Feb. 17). *Population Change Update: Manhattan Community District 1* (“Population Change Update”). New York, NY.
 2. J.M. Kaplan Fund et. al. (2015). *Make Way for Lower Manhattan*. New York, NY.
 3. Office of Council Member Corey Johnson. (2015). *Mapping Report: An analysis of street furniture and public spaces on Manhattan’s West Side, New York City Council District 3* (“Corey Johnson Mapping Report”). New York, NY.
- * Cover photograph from AP Images.

Appendix

1. Materials for Conducting Phase 1: Sidewalk Feature Inventory
2. Maps of the Remaining Features from the Sidewalk Feature Inventory
3. Materials for Conducting Phase 2: Community Assessment Survey

Appendix

1. Materials for Conducting Phase 1: Sidewalk Feature Inventory

Streetscape Analysis – Sidewalk Feature Inventory Manhattan Community District 1

Pace University Work Plan – Fall 2015

- I. Purpose: New York City’s streetscape shapes the way residents experience the city. For the next five weeks, you will conduct an existing conditions analysis of Lower Manhattan to determine the present condition of its sidewalks and pedestrian circulation.
 - Phase 1: Sidewalk Feature Inventory
 - Phase 2: Community Assessment Survey
- II. Goal: To catalogue all street furniture within Manhattan Community District 1.
- III. Methodology:
 1. Planning
 - a. The district is divided into four neighborhoods: Battery Park City, the Financial District, Seaport/Civic Center and Tribeca.
 - b. Each neighborhood is further divided into zones. *See zone map.*
 - c. You will work in pairs to survey your entire zone in 3-hour shifts over **five weeks** (a total of **15 hours**). You are *highly* recommended to schedule one shift per week and to collect data *as a team*.
 2. Surveying
 - a. For each building address and/or street intersection, mark the quantity and type of sidewalk furniture on your survey sheet.
 - i. Use a mapping application (such as Google Maps) if an address is not clear and to determine the direction (i.e. NE, NW, SE, SW) of intersection.

Street furniture and sidewalk features to indicate:

- | | | |
|--------------------------------------|------------------|----------------------|
| ▪ benches (all types) | ▪ light fixtures | ▪ street signs (all) |
| ▪ city bicycle racks (not Citi Bike) | ▪ mailboxes | ▪ subway entrances |
| ▪ MTA bus stops | ▪ newsstands | ▪ trash cans |
| ▪ emergency boxes/posts | ▪ news boxes | ▪ trees |
| ▪ fire hydrants | ▪ pay phones | ▪ tree pits |
| | ▪ planters | |
| | ▪ recycling bins | |

- IV. Deliverable: By **Wednesday, November 18th** or **Friday, November 20th**, you will have surveyed the street furniture of your entire zone.

V. Questions/Feedback:

Cammie Flippen, Planning Fellow
Email: JF2983@nyu.edu
Phone: (240) 346-7422

Michael Levine, Planning Consultant
Email: MiLevine@cb.nyc.gov
Phone: (212) 669-7977

Assigned 10/14/15 and 10/16/15

Appendix

1. Materials for Conducting Phase 1: Sidewalk Feature Inventory

Neighborhoods of Manhattan Community District 1



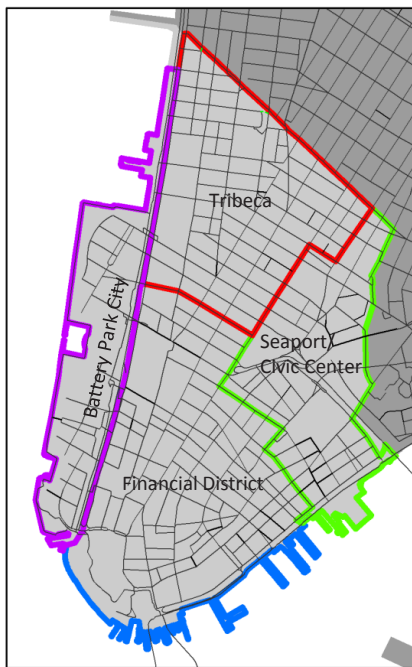
Appendix

1. Materials for Conducting Phase 1: Sidewalk Feature Inventory

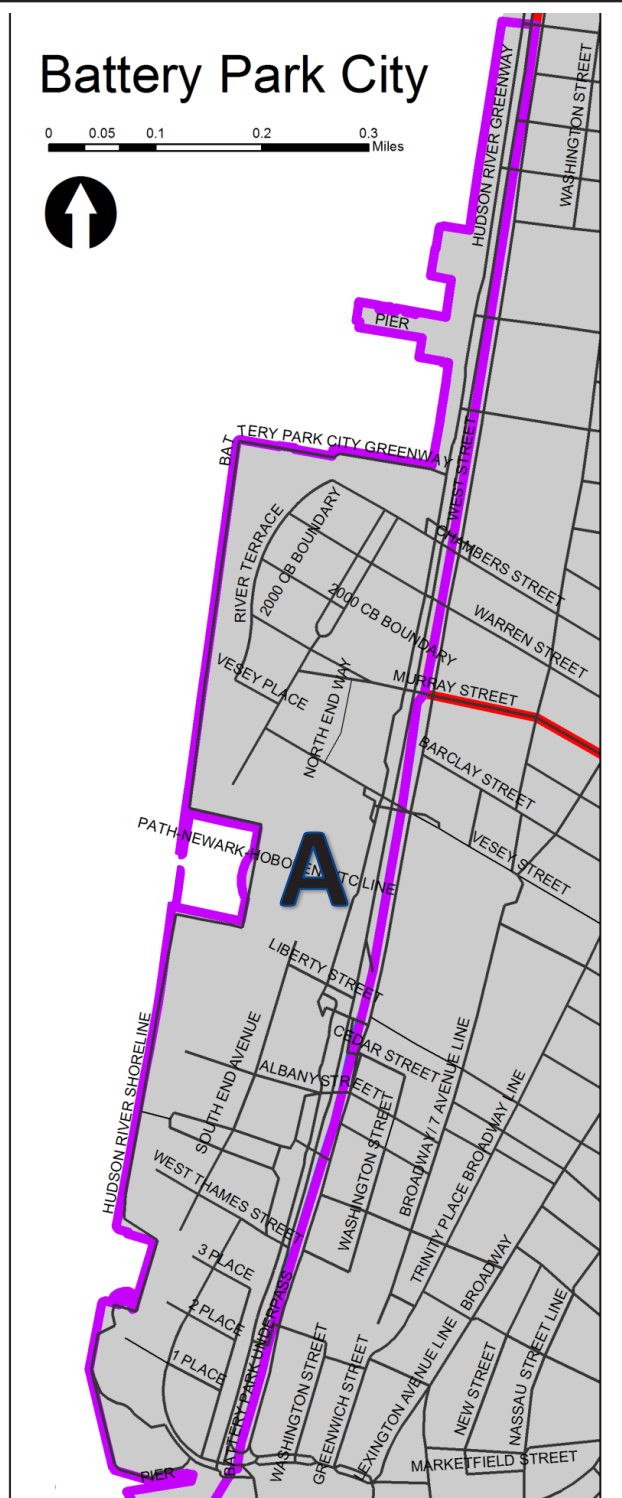
Streetscape Survey, 2015 Manhattan CD1

Neighborhood Boundaries:
West Street – Battery Place – 3
Place – Hudson River Shoreline –
North Esplanade

Manhattan CD1 Neighborhoods

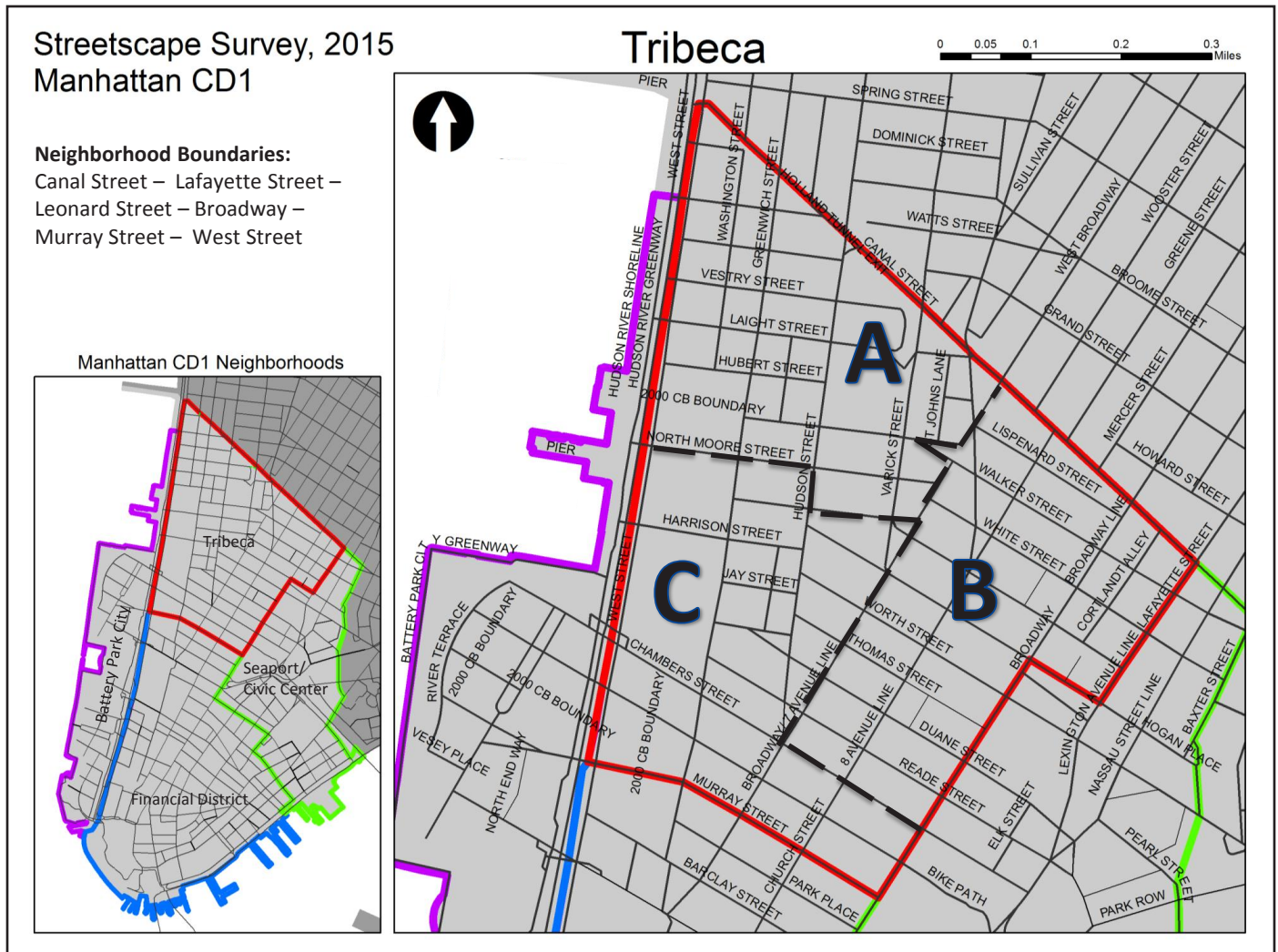


Battery Park City



Appendix

1. Materials for Conducting Phase 1: Sidewalk Feature Inventory



Appendix

1. Materials for Conducting Phase 1: Sidewalk Feature Inventory

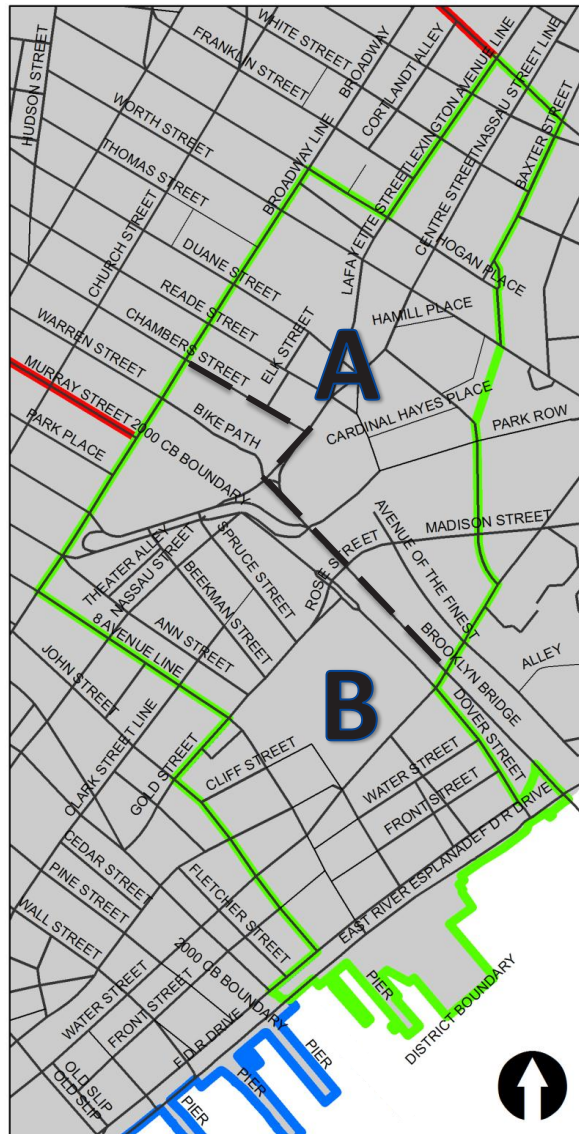
Streetscape Survey, 2015 Manhattan CD1

Neighborhood Boundaries:

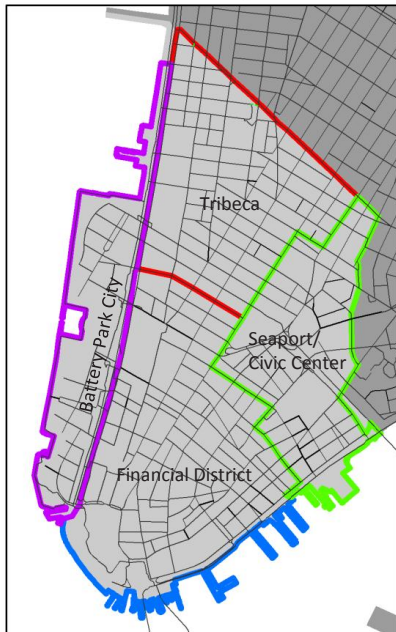
Broadway – Hogan Place –
Lafayette Street – Canal Street –
Baxter Street – Hogan Place –
Pearl Street – Dover Street – FDR
Drive (includes Piers) – Maiden
Lane – FDR Drive – John Street –
Gold Street – Fulton Street

Seaport/Civic Center

0 0.05 0.1 0.2 0.3 Miles

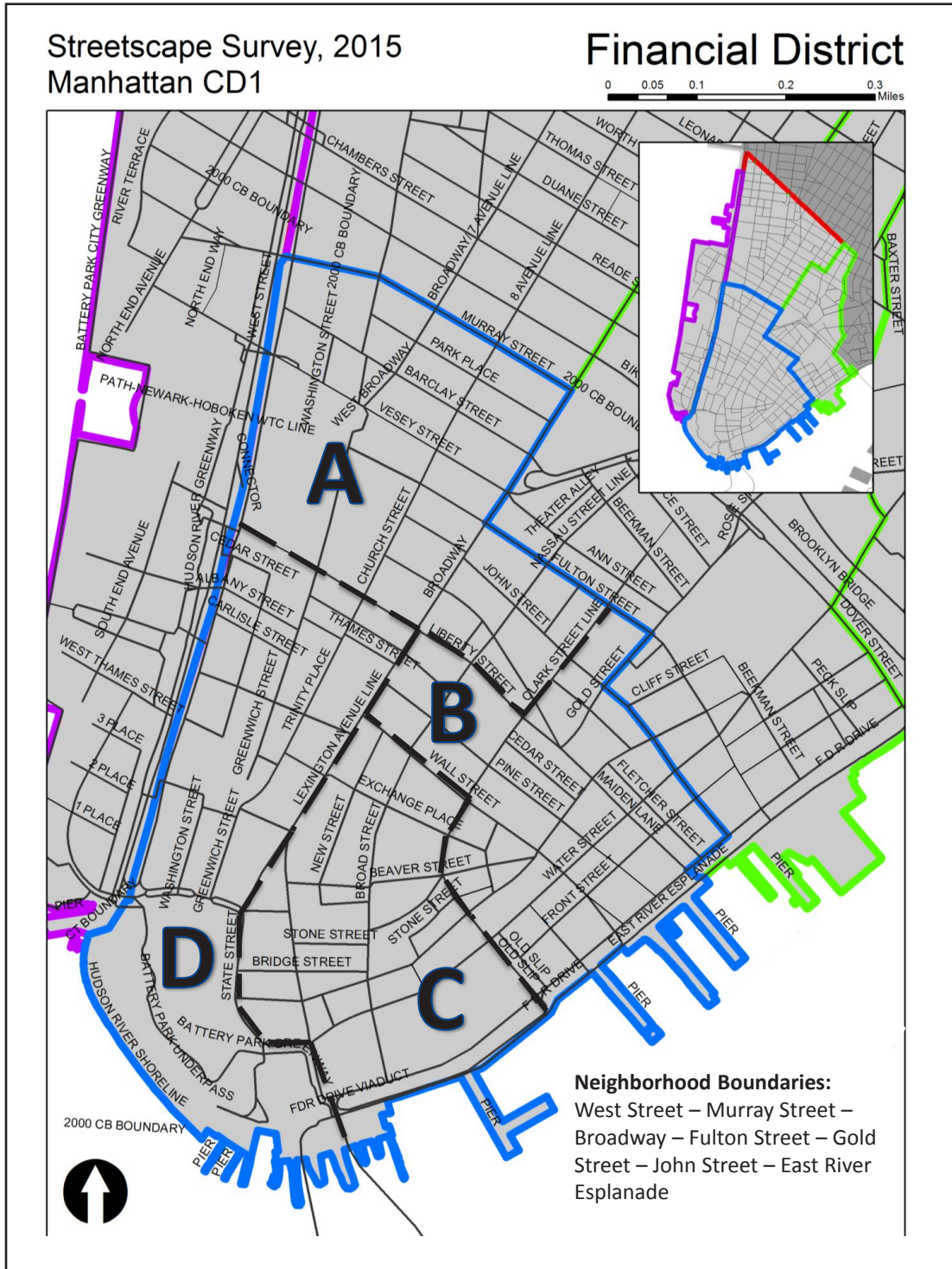


Manhattan CD1 Neighborhoods



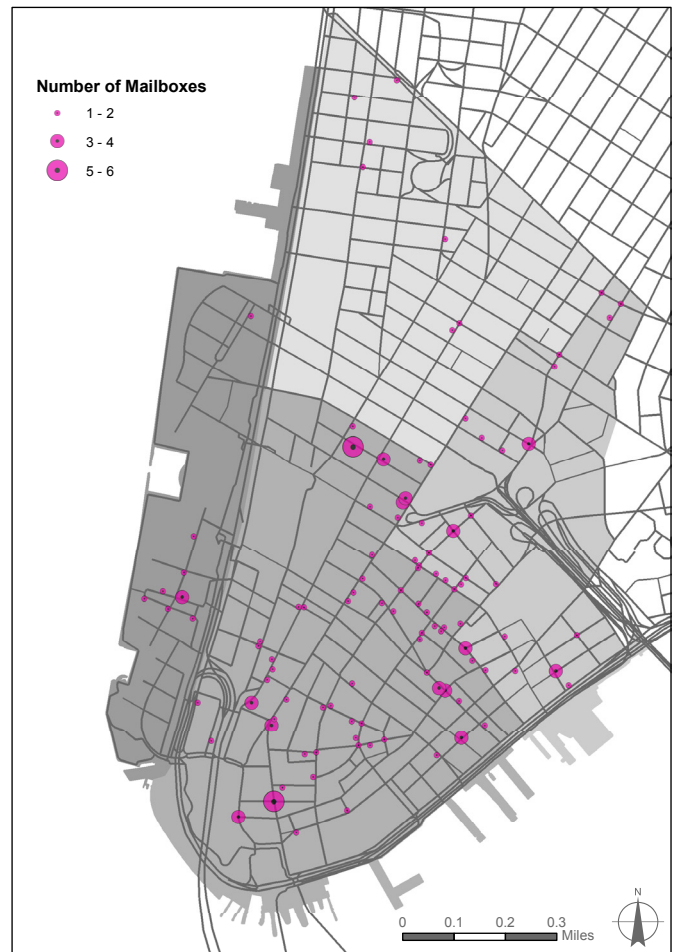
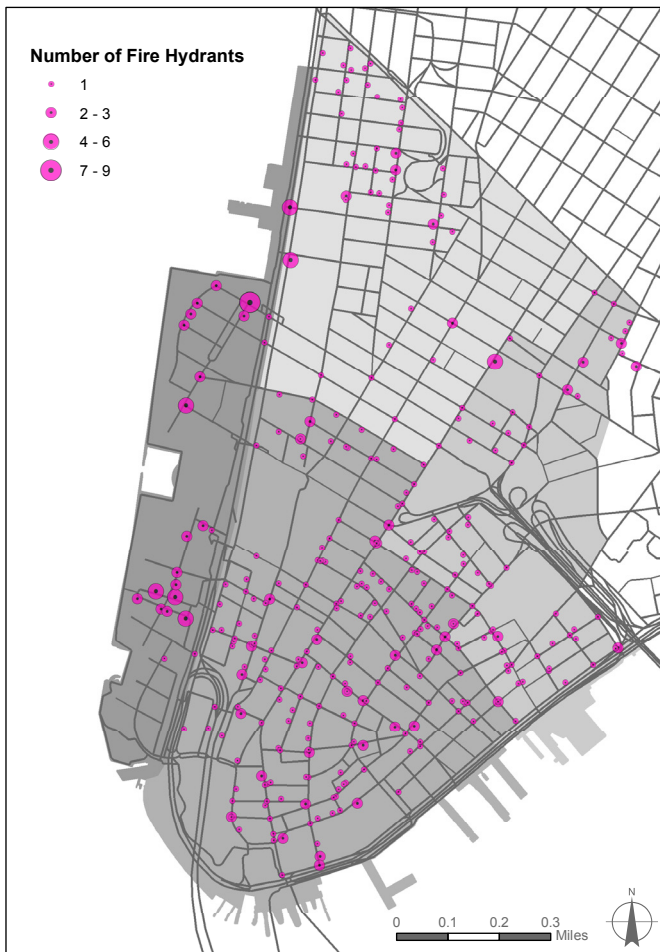
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1. Materials for Conducting Phase 1: Sidewalk Feature Inventory



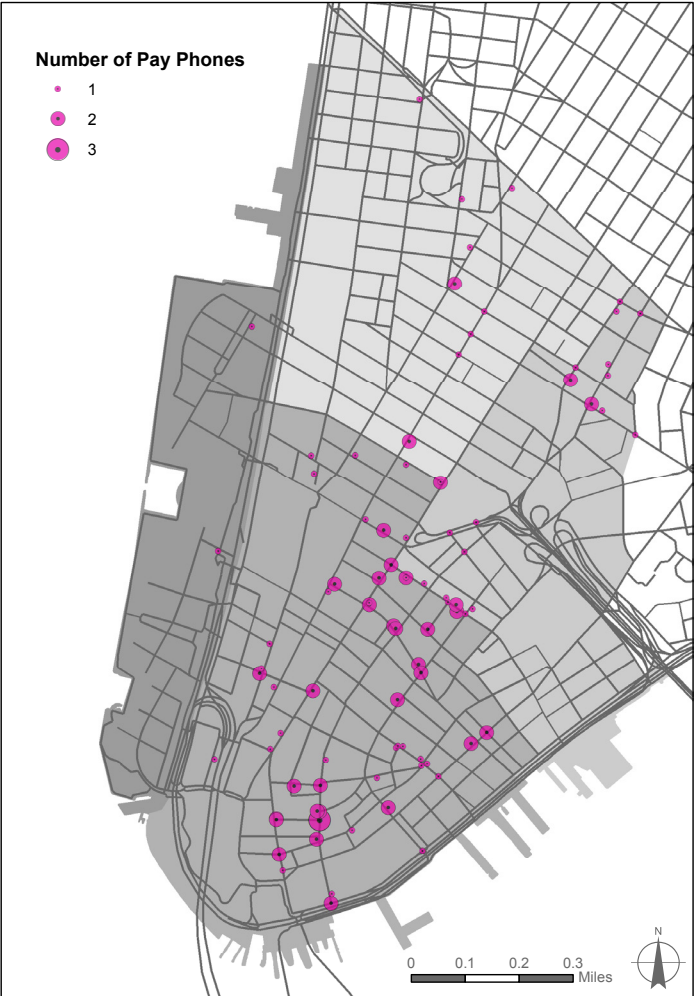
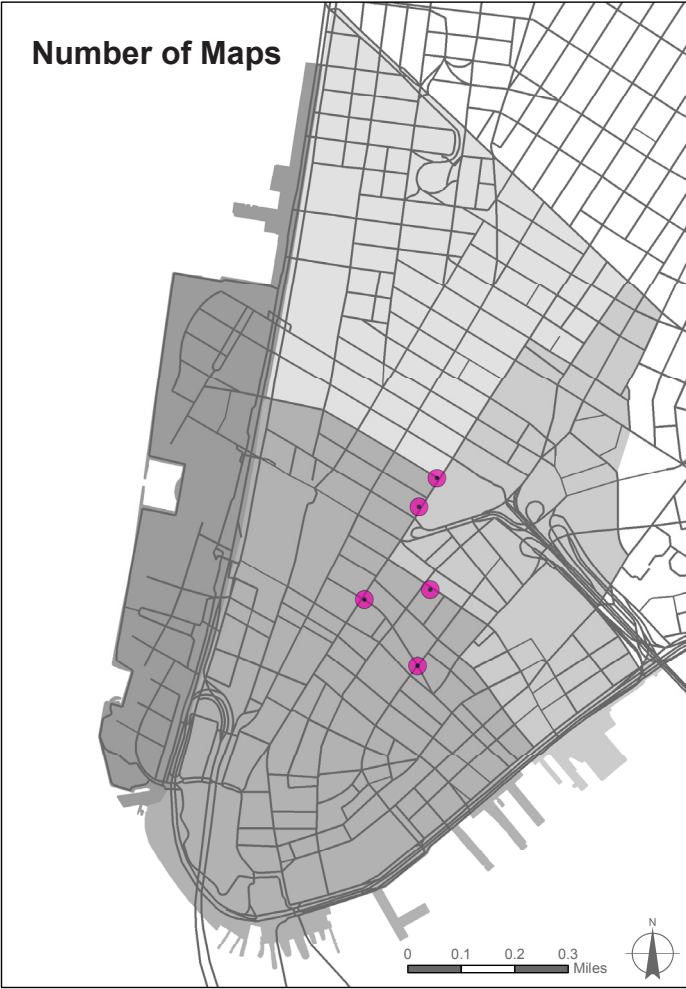
Appendix

2. Maps of the Remaining Features from the Sidewalk Feature Inventory



Appendix

2. Maps of the Remaining Features from the Sidewalk Feature Inventory



Appendix

2. Maps of the Remaining Features from the Sidewalk Feature Inventory



Appendix

3. Materials for Conducting Phase 2: Community Assessment Survey

Streetscape Analysis – Community Assessment Survey Manhattan Community Board 1

Pace University Work Plan – Spring 2016

- I. Purpose: New York City’s streetscape shapes the way residents experience the city. Manhattan Community Board 1 encompasses some of the city’s most complex streets and sidewalks; so the Community Board developed a Streetscape Analysis study to analyze the existing conditions of sidewalks and to gain insight into users opinions of their conditions, in order to develop design and policy recommendations to improve the street furniture.
 - Phase 1: Sidewalk Feature Inventory
 - Phase 2: Community Assessment Survey
- II. Goal: To complete Phase 2 of the study by surveying 15 people on the sidewalks of Manhattan Community Board 1. This survey will determine the condition of the sidewalks, including the obstacles that contribute the most to sidewalk congestion, and suggestions for improvements.
- III. Methodology: The District is divided into four neighborhoods: Battery Park City, the Financial District, Seaport / Civic Center, and Tribeca. Within each neighborhood are a set of intersections chosen by the Board Chair.
 1. Intersection locations – *on the back*
 2. Each person has **3 weeks** to conduct **15 surveys** at their designated intersection
 3. Surveying Tips
 - i. Check the weather
 - ii. Bring a pen/pencil and clipboard
 - iii. Wear Pace University shirt/sweatshirt/hat
- IV. Deliverable: By **Wednesday, March 16th** or **Friday, March 18th** you will have surveyed 15 different people.
- V. Questions/Feedback:

Camie Flippen, Planning Fellow
Email: JF2983@nyu.edu
Phone: (240) 346-7422

Michael Levine, Planning Consultant
Email: MiLevine@cb.nyc.gov
Phone: (212) 669-7977

Assigned 2/24/16 and 2/26/16

Appendix

3. Materials for Conducting Phase 2: Community Assessment Survey

SURVEY INTERSECTIONS

Streetscape Analysis - Community Assessment Survey

BATTERY PARK CITY

1. Warren St & North End Ave
2. Liberty St & West St
3. Albany St & South End Ave
4. Battery Place & 1st Pl

FINANCIAL DISTRICT

5. Pearl St & Broad St
6. Beaver St & Broad St
7. Pine St & William St
8. William St & John St
9. Water St & Wall St
10. Greenwich St & Rector St
11. Fulton St & Gold St
12. West Broadway & Murray St
13. Park Place & Church St

SEAPORT / CIVIC CENTER

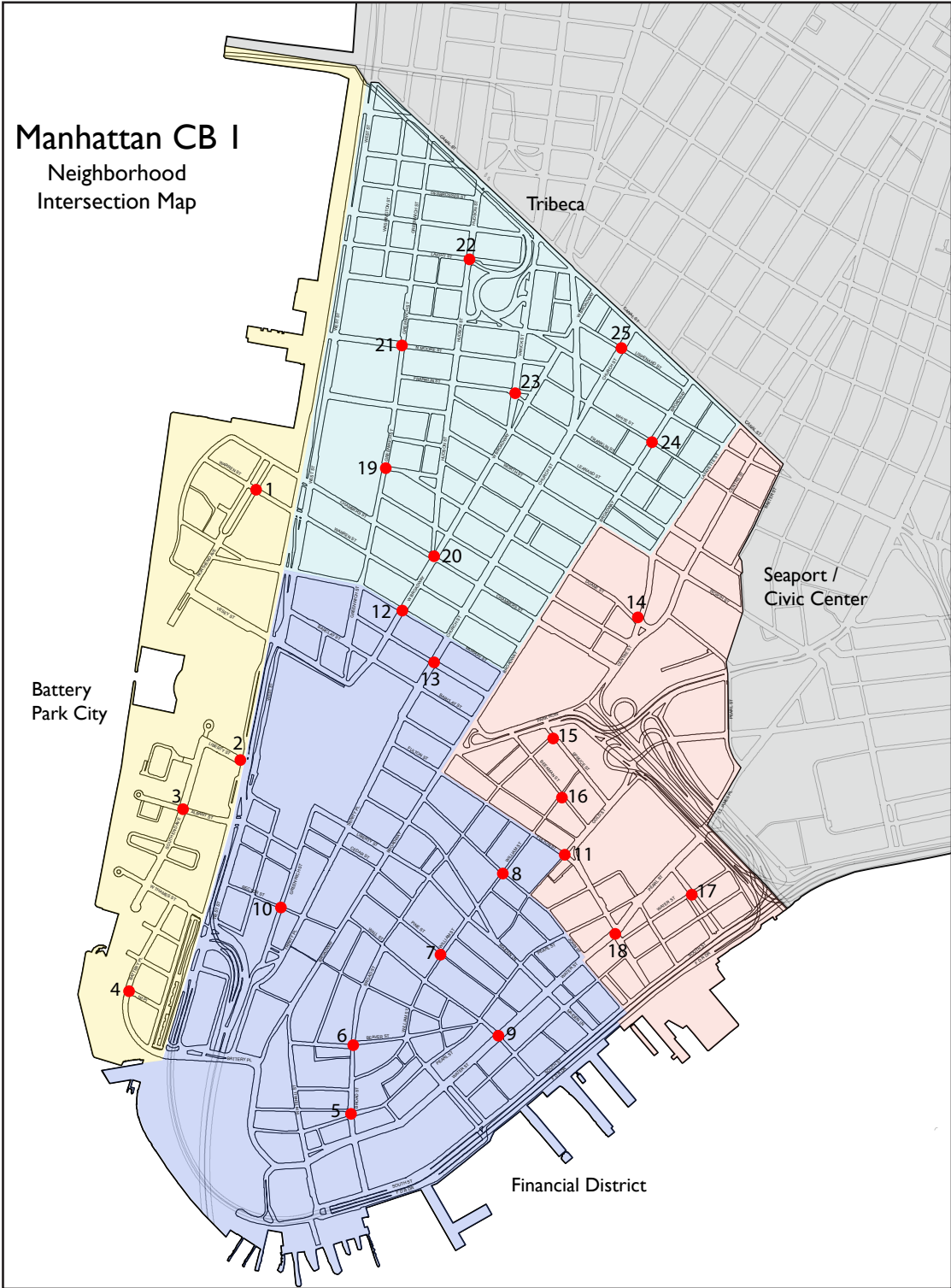
14. Lafayette St & Duane St
15. Nassau St & Spruce St
16. William St & Beekman St
17. Water St & Peck Slip
18. Fulton St & Pearl St

TRIBECA

19. Greenwich St & Duane St
20. Hudson St & Chamber St
21. N. Moore St & Greenwich St
22. Hudson St & Laight St
23. Franklin St & Varick St
24. Broadway & White St
25. Lispenard St & Church St

Appendix

3. Materials for Conducting Phase 2: Community Assessment Survey



Appendix

3. Materials for Conducting Phase 2: Community Assessment Survey

Interviewer Name:	Date:			
Manhattan Community Board 1 – Community Assessment Survey				
1. You are in this neighborhood today because you are: <input type="radio"/> Working here <input type="radio"/> Living here <input type="radio"/> Shopping here <input type="radio"/> Studying here <input type="radio"/> Visiting sites here				
2. Please rate the <u>condition</u> of the sidewalks in Lower Manhattan (below Canal Street) based upon sufficient street furniture (benches, planters, trees, trash cans, etc.): <input type="radio"/> Excellent <input type="radio"/> Good <input type="radio"/> Sufficient <input type="radio"/> Fair <input type="radio"/> Poor				
3. What <u>three (3) obstacles</u> contribute the most to sidewalk congestion in Lower Manhattan? <table border="0"><tr><td><ul style="list-style-type: none">• benches• bike racks• bus stops• emergency boxes/posts• fire hydrants• light fixtures/posts</td><td><ul style="list-style-type: none">• mailboxes• maps• newsstands• news boxes• pay phones• planters</td><td><ul style="list-style-type: none">• recycling bins• street signs• subway entrances• trash cans• trees• tree pits</td></tr></table> 1. _____ 2. _____ 3. _____		<ul style="list-style-type: none">• benches• bike racks• bus stops• emergency boxes/posts• fire hydrants• light fixtures/posts	<ul style="list-style-type: none">• mailboxes• maps• newsstands• news boxes• pay phones• planters	<ul style="list-style-type: none">• recycling bins• street signs• subway entrances• trash cans• trees• tree pits
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4. What are <u>three (3) improvements</u> to the streetscape that you would like to see? 1. _____ 2. _____ 3. _____				
5. Respondent characteristics: <u>Age</u> <input type="radio"/> Under 21 <input type="radio"/> 21 – 35 <input type="radio"/> 36 – 50 <input type="radio"/> 51 – 65 <input type="radio"/> 66 or over <u>Gender</u> <input type="radio"/> Female <input type="radio"/> Male <input type="radio"/> Other				
6. Location of interview. Address (number and street) or cross streets: _____				

Interviewer Name:	Date:			
Manhattan Community Board 1 – Community Assessment Survey				
1. You are in this neighborhood today because you are: <input type="radio"/> Working here <input type="radio"/> Living here <input type="radio"/> Shopping here <input type="radio"/> Studying here <input type="radio"/> Visiting sites here				
2. Please rate the <u>condition</u> of the sidewalks in Lower Manhattan (below Canal Street) based upon sufficient street furniture (benches, planters, trees, trash cans, etc.): <input type="radio"/> Excellent <input type="radio"/> Good <input type="radio"/> Sufficient <input type="radio"/> Fair <input type="radio"/> Poor				
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