



SOUTH BRONX COMMUNITY FITNESS ASSESSMENT REPORT ON FINDINGS

Key Findings

- ◆ Highbridge/Morrisania residents are more likely to incorporate routine exercise into their commute than they are into other types of trips during the week.
- ◆ Highbridge/Morrisania residents are aware of fitness guidelines about moderate activity and strength training.
- ◆ Parks and playgrounds are highly accessible and valued sites for both routine and planned exercise.
- ◆ Indoor fitness facilities are strongly desired, though it is unclear whether this will translate into actual usage.
- ◆ Though Highbridge/Morrisania's mixed use development and good public transit should lead to a highly walkable environment, poor sidewalk conditions and relatively frequent hills work against easy pedestrian passage.
- ◆ Safe bicycling opportunities are rare in the Bronx, with infrequent bike lanes poorly marked or obstructed, though residents express interest biking more regularly.
- ◆ A mix of things make Highbridge/Morrisania more or less pleasant for walking to a destination. Tree shade, benches, public art and fellow residents are creating a pleasant environment; garbage, smells and noise are creating an unpleasant environment.
- ◆ Highbridge/Morrisania residents fear both crime and dangerous traffic in their neighborhoods, which leads to a decline in outdoor engagement.
- ◆ Future planning could include any or all possible fitness campaign avenues including community education, community advocacy or resource development.

List of Figures, Tables & Appendices

Figure 1: Highbridge/Morrisania and Bordering Zip Codes	5
Figure 2: South Bronx Community Fitness Assessment: Field Observation Study Areas	5
Figure 3: Residential vs. Non-Residential Land-Use in Highbridge/Morrisania Neighborhoods	6
Figure 4: Non-Residential Land-Use in Highbridge/Morrisania Neighborhoods	7
Figure 5: Method of Transportation to Work or School (Alone or in Combination)	9
Figure 6: Method of Transportation to Places Other than Work or School (Alone or in Combination)	9
Figure 7: Features of Current Neighborhood that Make it Pleasant for Walking to a Destination	10
Figure 8: Features of Current Neighborhood that Make it Unpleasant for Walking to a Destination	10
Figure 9: Use of and Desire for Recreation Facilities	11
Table 1: Organizations Submitting Survey Responses	8
Table 2: Respondent Zip Codes	8
Appendix A: Active Neighborhood Checklist with WHEDCO Edits	17
Appendix B: South Bronx Community Fitness Survey	19

Prepared By

Dr. Meredith Reitman, Director of Research and Evaluation, Women's Housing and Economic Development Corporation

With assistance from Jordan Guerra, University of Albany; Amy Acevedo, Montclair State University; Desiree Keys and Melissa Delaunay, W!SE Program, Academy for Scholarship and Entrepreneurship

December 2008

Introduction

Obesity in the South Bronx is a significant public health concern that puts residents at risk for many health problems including heart disease and diabetes. While obesity can be controlled or prevented through diet and exercise, residents of the South Bronx engage in considerably less physical activity than other New York City residents. Attending to physical activity needs and opportunities is therefore a key component of improving the overall health of the South Bronx.

The neighborhood of Highbridge/Morrisania, covering the southwest portion of the South Bronx, is particularly plagued by stark statistics on obesity, heart disease, diabetes and physical exercise. According to the 2006 Community Health Profile by the New York City Department of Health and Mental Hygiene (NYC DOHMH), over a quarter of residents in Highbridge/Morrisania were obese, compared with only 20% of residents in New York City overall. Highbridge/Morrisania also outpaces the rest of New York City on diabetes (16% vs. 9%) and rate of hospitalization due to heart disease (2,611/100,000 vs. 1,856/100,000). Unfortunately, Highbridge/Morrisania lags behind the rest of the city on physical activity. Over half of residents receive no exercise at all, compared to 43% citywide, and only one third report exercising the recommended minimum of three days per week.

Since diet and exercise are fundamentally tied to obesity rates, raising the level of physical activity is a primary goal of any health campaign in the South Bronx. In June of 2008, the Women's Housing and Economic Development Corporation (WHEDCo) received a grant from the New York City Food & Fitness Partnership, an organization focused in part on promoting environments in New York City that encourage physical activity. Under this grant, WHEDCo conducted a two-part assessment investigating community residents' awareness of and access to fitness opportunities. The findings from WHEDCo's South Bronx Community Fitness Assessment help shed light on how to better help South Bronx residents meet their health and fitness needs through education, advocacy and resource development.

Previous Research

Over the past decade, in response to research showing an obesity epidemic in the U.S., organizations and individuals have been directing an increasing level of resources toward addressing obstacles to physical activity. Declining physical activity has been shown to correspond with increasing levels of obesity among adults (Kerr, 2008). Our focus for this assessment involves two kinds of activities, both of which increase personal fitness: 1) recreational activities such as going to the gym and running in the park and 2) routine activities like walking to work or the grocery store. Many studies have found that a key obstacle to better health is community design: the types of communities we live in significantly impact our ability to reach fitness goals (Brownson et al., 2000; Task Force on Commu-

nity Preventive Services, 2002; Powell et al, 2003; Frank et al., 2005; Ewing and Kreutzer, 2006). Community design is comprised of a wide range of factors including the layout of neighborhoods, the prevalence of criminal activity, the availability of recreational green spaces and the structure of transportation systems. By creating an "activity-friendly" environment, people are more willing and able to meet fitness goals through either recreational (planned) or routine exercise.

Extensive research has shown that "activity-friendly" environments incorporate four major design characteristics: they are accessible (Troped et al, 2001; Giles-Corti et al., 2002; Huston et al, 2003), walkable (Saelens et al., 2003; Sharpe et al., 2004), pleasant (Wilcox et al., 2000) and safe (Jacobsen, 2003; Loukaitou-Sideris, 2004; Committee on Physical Activity, 2005). In accessible environments, residents can easily find natural or built spaces in which to engage in walking, biking or other exercise. Walkable neighborhoods feature mixed commercial and residential space, high levels of connectivity and functional sidewalks. Residents in pleasant environments benefit from attractive surroundings and friendly neighbors. Finally, safe places to exercise are perceived as safe from both traffic and illegal activity.

For organizations with a mandate to address the health of their communities, the question then becomes, "how 'activity-friendly' is our community?" National studies show neighborhoods with higher concentrations of people of color or households earning lower incomes are less likely to be "activity-friendly" (Powell et al., 2004; Gordon-Larsen et al., 2006; Power et al., 2006). Though these neighborhoods may have some beneficial characteristics, such as mixed land-use and high connectivity, these positive characteristics are often coincident with aesthetic, maintenance and safety challenges (Day, 2006; Zhu and Lee, 2008). It therefore becomes crucial to be able to assess these neighborhoods along as many axes as might seem relevant and appropriate to the study.

Tools and Methods

In order to investigate fitness opportunities for Highbridge/Morrisania, the South Bronx Community Fitness Assessment primarily focused on the neighborhood's three zip codes: 10451, 10452 and 10456 (Figure 1). Part 1 of the Assessment consisted of intensive field observation of the built environment using an in-depth segment-by-segment inventory. Findings from this observation were cross-referenced with mapping through New York City's citywide GIS called the Open Accessible Space Information System (OASIS). Part 2 followed up the observation with a survey of neighborhood residents, asking about their current physical activity and any obstacles to fitness.

To tackle the field observation, it was necessary to find the right tool. A new body of research seeks to develop replicable assessment tools for measuring how well built environments encourage or discourage physical activity. Rather than looking at larger scale patterns in land-use and demographic data, these tools explore the built environment at the micro-scale, gener-

ally assessing neighborhoods by individual street segment (both sides of the street between two intersections). Though these “audits” vary both by content and method, they all assume it is these “micro-features” in the built environment that shape how attractive and/or accessible an area is for physical activity (Clifton et al., 2007, Alfonzo et al, 2008). An excellent comparison of the seven most well-known pedestrian audits used in the United States and elsewhere, by items measured, can be found in Clifton et al (2007).

Thoroughly reviewing these tools showed the Irvine Minnesota Inventory (IMI), the Pedestrian Environmental Data Scan (PEDS), and the St. Louis University Active Neighborhood Checklist to be the most useful for the current study. One major drawback to all of these tools is that they were used in rural, suburban and university campus neighborhoods that differ considerably from our study areas in the Bronx. This meant that no matter which tool we chose, it would need to be modified to fit our research.

Given these constraints, studies have shown all three tools to be consistent and reliable, in that given proper training, every volunteer will assess the built environment in nearly the same way without too much error from bias or interpretation (Brownson et al., 2004; Hoehner et al., 2005; Boarnet et al., 2006; Day et al., 2006). In evaluating these tools, we not only explored the tools themselves and their supporting documents first hand, but also spoke to the primary investigators behind the development of each tool to understand their applicability to our study. The Irvine Minnesota Inventory is by far the most comprehensive tool of the three, taking into account over 200 measures in exhaustive detail. The complexity of this tool, however, works against its ease of use by trained volunteers. The PEDS audit (Pedestrian Environmental Data Scan) is an adaptation of the popular SPACES tool used in Australia. Much more user-friendly, it unfortunately misses important characteristics included in other assessment tools, such as land-use and pedestrian environment measures. The Active Neighborhood Checklist is a happy medium, with an efficient design and excellent spread of measures. We therefore adapted this Checklist to fit with our urban geography, modifying categories of land-use to include the varied options in our area, adding questions about the pedestrian and social environment and removing questions about road shoulders (Appendix A). Though these modifications make the survey untested for consistency (as the original had been), we felt it stayed close enough to the design of the original to provide confidence in its reliability across volunteers.

We chose to observe two census tracts in each zip code under study, choosing pairs that formed one contiguous neighborhood: West Concourse in 10452 (Tracts 197 and 221), Morrisania in 10456 (Tracts 149 and 151) and Melrose Commons in 10451 (Tracts 67 and 141) (Figure 2). To conduct the field observation, we sampled 16 segments within each of these three neighborhoods, for a total of 48 segments. One research assistant and two community volunteers conducted the inventory over a period of four weeks during the summer of 2008, each segment taking an average of 18 minutes to complete.

The second half of the South Bronx Community Fitness Assessment asked community residents about their awareness of and access to fitness opportunities through a closed-ended survey. The content of the Community Fitness Survey combines questions from other physical activity surveys with questions informed by our field observation (Appendix B). Questions about current physical activity are modeled after the IPAQ (International Physical Activity Questionnaire), an internationally-tested and widely respected survey, as well as other assessments at Montclair State University (Birnbaum, 2008) and NutritionQuest (NutritionQuest, 2008). Questions about neighborhood walkability are derived directly from findings about the pedestrian and social environment from our segment-by-segment inventory of the three study areas. Finally, questions about activity awareness are drawn from the Department of Health and Human Services Center for Disease Control and Prevention fitness guidelines (Center for Disease Control and Prevention, 2008). We distributed this survey to nonprofit and government contacts in the three zip codes under study, reaching a population in those and bordering zip codes from which to draw responses.

Data and Findings

In order to make sure results are vigorous, the Community Fitness Assessment employs multiple methods and sources of data. Cross-referencing findings allows for a greater confidence in the validity of the research. Part 1 of the project employs both field observation and mapping to explore the on-the-ground geographical availability of fitness opportunities in the study areas. Part 2 of the project employs a self-administered survey to explore perceptions of and access to fitness resources among residents of the South Bronx.

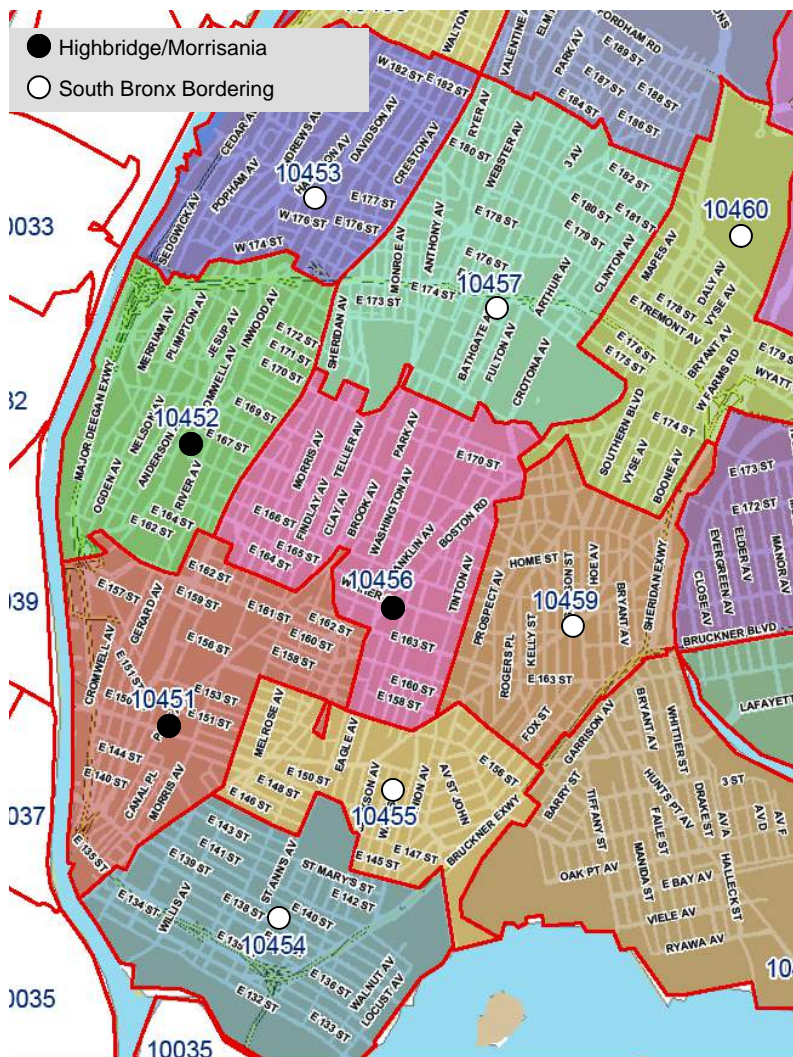
Part 1: Field Observation & Mapping

Land Use

We measure land use to determine what types of residential and non-residential facilities are accessible within a given neighborhood. Most segments under study (71%) contained *both* residential and non-residential facilities, revealing a high rate of mixed land use in Highbridge/Morrisania (Figure 3). Sixty percent of the segments were dominated by residential buildings, 29% by commercial, government or religious buildings, 13% by vacant lots or abandoned buildings, 10% by schools and school yards and another 13% by other types of facilities including a public square, community organization, police station and factory.

Residential space was dominated by apartments over four stories, sometimes over retail, and nearly all segments included on-street parking. Non-residential land use was quite varied, though most often included either a small grocery or deli, convenience store or pharmacy or another type of service including

Figure 1: Highbridge/Morrisania and Bordering Zip Codes

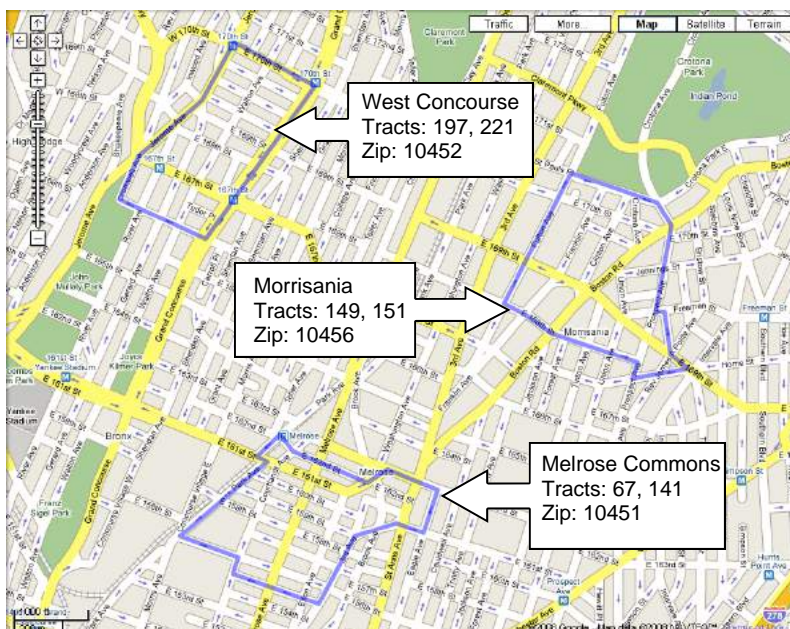


Highbridge/Morrisania, as defined by the NYC DOHMH, is located in the South Bronx and is comprised of three zip codes: 10451, 10452 and 10456. As of 2000, the total population was 189,800. According to the NYC DOHMH 2006 Community Profile, residents of Highbridge/Morrisania are slightly younger and have completed fewer years of education than those in other areas of the Bronx and New York City. Highbridge/Morrisania also has a higher percentage of people identifying as black and Hispanic (96%) than the rest of the Bronx (79%) and New York City overall (51%). The poverty rate is higher in Highbridge/Morrisania (41%) than in the Bronx (31%) and New York overall (21%).

The South Bronx Community Fitness Survey was administered to partnering organizations located in Highbridge/Morrisania's three zip codes. Survey responses, however, spanned the entirety of the Bronx and parts of Manhattan. We therefore chose to draw our sample from both Highbridge/Morrisania and its six bordering zip codes, on the basis of the fact that residents in those bordering zip codes are part of the community through their use of community services.

Map Source: University Neighborhood Housing Program, 2006

Figure 2: South Bronx Community Fitness Assessment: Field Observation Study Areas



In order to conduct a segment-by-segment inventory of the Highbridge/Morrisania built environment, we chose to sample three study areas, one within each of three zip codes. Each study area consisted of two Census tracts that formed a contiguous neighborhood, and contained between 57 and 75 segments. We conducted a 25% sample of the 194 total segments, choosing 16 from each study area for a total of 48 segments.

Segments were chosen through a geographical cluster sample, where clusters were defined by dividing each neighborhood into quadrants and choosing an equal number of segments at random within each cluster. The only exception to this procedure occurred when major features of the landscape, such as schools or parks, were omitted by the random sample. The sample was then adjusted to make sure these features were included in the observation.

Map Source: Google Maps, 2008

a laundromat, dry cleaner, hair or nail salon, medical service or travel business (Figure 4).

Neighborhood maps reveal West Concourse has somewhat larger lots than do the other two neighborhoods, and is primarily comprised of multifamily residential units and mixed-use buildings. Two commercial strips run along 167th and 170th streets. It has three public schools and one religious school. It also contains three health care centers, three churches, two community service organizations (including WHEDCo) and one vacant lot.

Morrisania has much smaller lot sizes, mostly used for multifamily residential units and including six large public housing complexes. Commercial use is much less present than in West Concourse, but institutions of various kinds are plentiful. The neighborhood is home to six public schools, including the well-reputed Bronx Center for Science and Mathematics, and one religious school. It also includes seven churches, three city homes and two health care centers, one of which is the Bronx-Lebanon Hospital Center. Dotted throughout the neighborhood are about forty small vacant lots and a cluster of industrial buildings.

In contrast to the other two neighborhoods, Melrose Commons is dominated by vacant lots and industrial use. Most of the other lots are multifamily residential, including two public housing complexes, and there is very little commercial land use except along 3rd avenue. Also in contrast to the other two neighborhoods, there are far fewer institutions in the neighborhood. Mapping showed only four schools, a few city homes and churches and several government-owned buildings in the process of being developed.

A more detailed investigation into the level of accessibility described above reveals business varying widely in upkeep, with some showing visible signs of being closed indefinitely.

Vacant lots may also have an exaggerated effect on the perception of the neighborhood, as they varied from moderately to severely unattractive and included pathway obstructions, garbage, abandoned vehicles, excessively unkempt vegetation and, in one case, poison baiting.

Recreational Facilities

In the study area as a whole, one quarter of segments observed had a public recreation facility present. Mapping shows West Concourse and Morrisania each having one large park on the neighborhood boundary that includes a playground, tennis and/or basketball courts and soccer and/or baseball fields. Other than those anchoring parks, a few smaller green spaces dot the neighborhood. Melrose Commons has no large anchoring park, but does have eleven small community gardens and a small park with a playground.

Public Transportation

Just under a third of the segments observed had a transit stop, and 38% of those with stops had a bench or shelter on either side of the street. The condition of transit stops varied widely from good to poor. Mapping analysis shows accessibility to public transportation differs among the three neighborhoods. West Concourse is by far the most accessible with connections to three subway trains and five buses. Neither Morrisania nor Melrose Commons include subway stops within their borders, though they do have good bus access with four and eight bus lines respectively.

Figure 3: Residential vs. Non-Residential Land-Use in Highbridge/Morrisania Neighborhoods

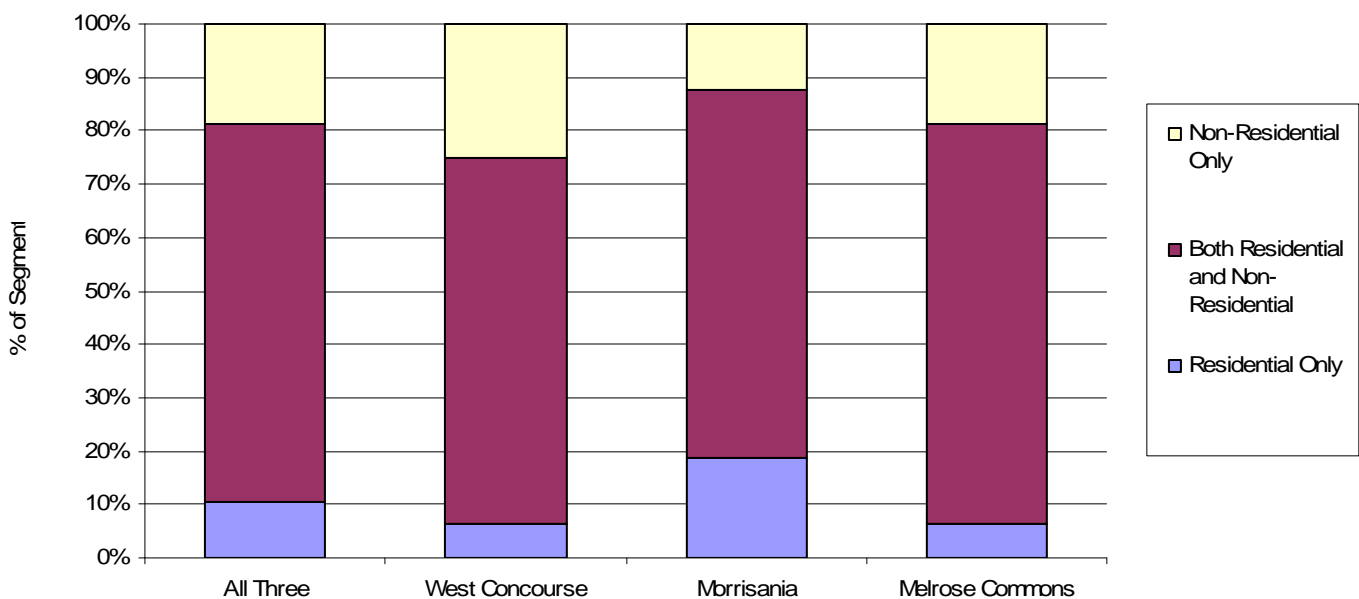
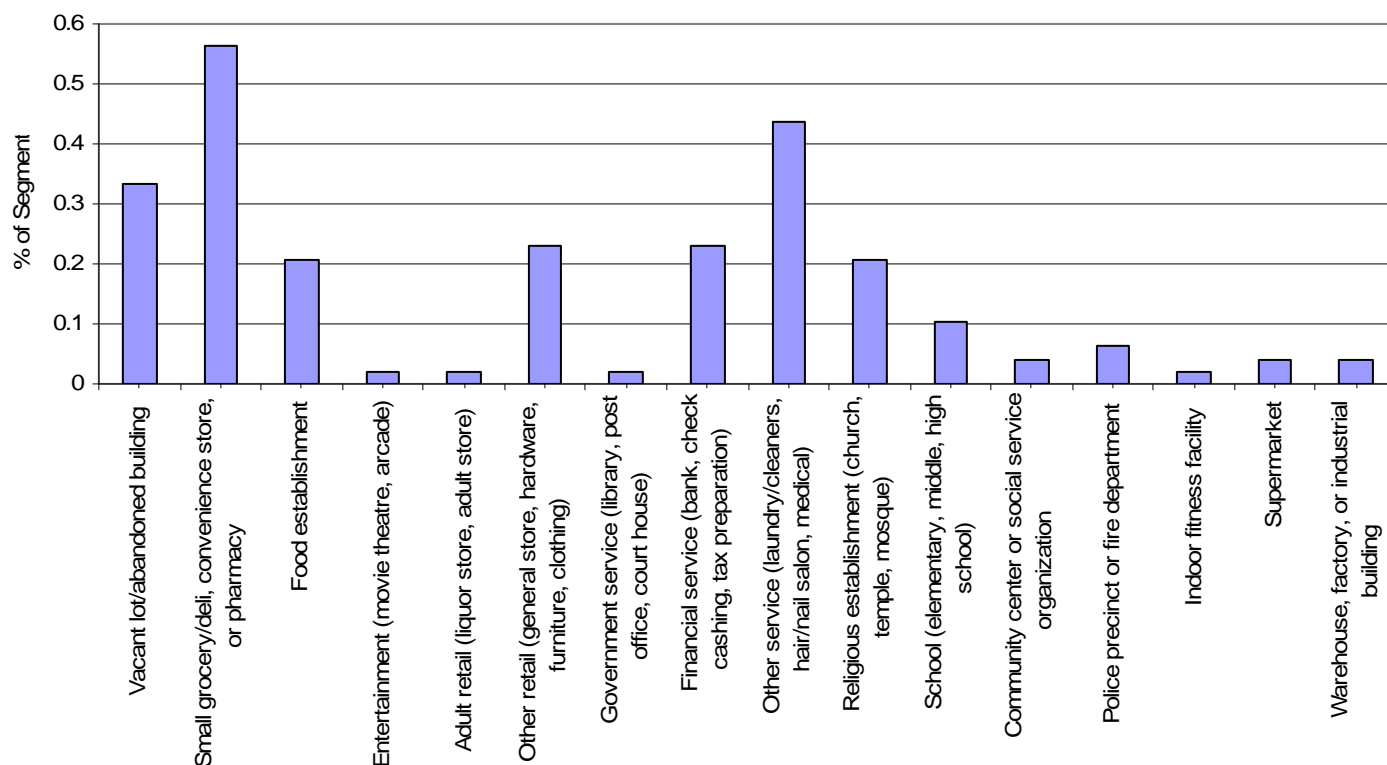


Figure 4: Non-Residential Land-Use in Highbridge/Morrisania Neighborhoods (percent of observed segments with use present)



Street Characteristics

The most striking characteristic observed was that 90% of segments were without speed limits. Of those that did have posted signage, two were special speed zones at 15mph, and three were posted at 30mph. The number of lanes varied widely within the study area, with over half only having one lane and nearly 20% having three or more lanes. Most streets with two or more lanes were marked and included a crosswalk and walk signal. Traffic calming devices and turn lanes, however, were rare. In addition, observers noted that on over 40% of the segments with crosswalks, they were either only on one side or in significant disrepair.

Pedestrian Environment

As expected in a dense urban environment, nearly all buildings were right up against the sidewalk, making pedestrian access to them relatively easy. However, a quarter of the segments contained buildings, sidewalks or roadways under construction or repair. The fact that many buildings had garages or parking lots increased cross-path traffic that, along with scaffolding and loose wires from construction, sometimes made pedestrian passage quite difficult.

Other than building placement and condition, many other positive and negative features affected the walking environment. On the plus side, nearly two thirds of the segments had some or a lot of tree shade and 60% had a gentle slope for walking. Observers noted the tree shade, while plentiful, was often highly

uneven, on one side or one part of segment only and varying in the condition of the trees themselves. Just under a third of segments contained benches for resting and a quarter included public art in the form of murals or sculptures.

On the negative side, over 80% of segments observed included dumpsters or large piles of garbage. The condition of the dumpsters varied, with some off the street or sealed but over half leaking garbage and smells into the pedestrian environment and blocking safe views of crossing opportunities. Graffiti was found in 80% of segments, standing water in 58%, a significant amount of litter or broken glass in 38% and broken or boarded-up windows in 15% of segments. Other pedestrian nuisances included runoff from air conditioners, discarded food and dog feces.

Walking and Biking Opportunities

Highbridge/Morrisania as sampled through field observation has a high level of sidewalk connectivity. All segments observed had sidewalks on both sides, with only one or two not continuous or missing curb cuts. Sidewalks on nearly all segments were also wider than five feet for most of their length and only 17% of segments contained sidewalks that narrowed to less than three feet for any part of their length. A little over 10% had sidewalk obstructions in form of trees, signs, tables, parked cars, garbage and in one case a large appliance. Ninety percent of segments included a sidewalk buffer that separated the sidewalk from traffic, and over 90% of these buffers in-

cluded trees.

These findings paint a picture of a highly connected walking environment, yet 69% of segments included major sidewalk misalignments or cracks with grass. This is a particular problem for travelers who depend on a smooth surface, including elderly people, children, or those with wheelchairs or strollers. It is very important therefore to take into account not only the number and width of sidewalks but also how passable they are in determining connectivity.

Bicycle connectivity was observably less than pedestrian connectivity. Only eight segments included a bike lane or route, but four of those eight had obstructions mostly in the form of parked cars making passage impossible. Mapping analysis supported this finding, with very few lanes or routes appearing in West Concourse and Morrisania and none in Melrose Commons. Field observers also noted the lanes were poorly marked, and that while some segments were quiet enough for bicycling on the street, many were not, including those with cars constantly crossing biking paths. Overall, biking opportunities in Highbridge/Morrisania were strictly limited.

Social Environment

Field observation shows Highbridge/Morrisania to be a very socially active environment. Nearly all segments included people out and about, most including active adults and almost two thirds including active children. In two-thirds of segments people were chatting, smiling or laughing. Observers noted many adults and children playing and socializing, interacting on the sidewalk or in front of businesses or houses. A few segments included street vendors selling produce, clothing or snacks and other segments were quiet enough to hear birdsong.

These positive features coexist with some rather significant negative characteristics. Over half of the segments observed included loud noises from construction, trains and traffic. Almost a third included unpleasant smells, mostly emanating from the garbage mentioned previously. Smaller percentages of segments included people acting aggressively in shouted public arguments (13%) and stray animals (8%). Overall, the primary issues counteracting a positive, socially active environment were loud noises and bad smells.

Table 1: Organizations Submitting Survey Responses

Organization	N	%
Bronx Lebanon Community Health Education Center	20	4
Grand Concourse Academy Charter School	174	38
Individual submission	2	0
Phipps Community Development Corporation	45	10
Sharon Baptist Head Start	99	22
Tenants Association, 1240 Washington Ave	10	2
The Institute for Family Health	13	3
WHEDCo Afterschool at PS/MS 218	33	7
WHEDCo Home Based Childcare Microenterprise	33	7
WHEDCO Urban Horizons Discovery Center	28	6
TOTAL	457	100

Part 2: Survey

Respondent Demographics

After initial pilot testing, surveys were sent to external contacts located across the Highbridge/Morrisania community, including our five signed partners, as well as three department heads within WHEDCo (Table 1). We received 480 surveys in return. Sifting out duplicates decreased the total number of respondents to 457, 322 of whom stated residence in Highbridge/Morrisania or bordering zip codes (Table 2).

Women were the large majority of the sample at 81% of respondents. Sixty percent of respondents said they were Hispanic or Latino (including those identifying with Puerto Rico and the Dominican Republic), 36% said they were Black or African-American and 4% reported a West Indian, East Indian, African or other racial identity. This distribution mirrors the Census distribution for these zip codes, thereby suggesting we were able to obtain a representative sample. Survey languages were split between Spanish and English, with the majority (86%) using the English-language survey. The average age of respondents was 36, with a less than 10% stating they were either younger than 18 or older than 55.

Current Activity

The first section of the survey asked respondents how they usually get to work or school, or to places other than work or school. When asked about the work/school commute, 60% of respondents said that they always or most of the time walk, either alone or in combination with other types of transportation. Half of respondents said they take the train and 44% said they take the bus always or most of the time as part of the work or school commute. A third said that they drive or ride in a car, and only 3% said they ride a bike always or most of the time (Figure 5).

These numbers change when looking at how respondents get to places other than work or school. Again, walking, taking the train and taking the bus come in as the most likely answers. However, the percent of those who said they always or most of the time walk when heading to destinations other than work

Table 2: Respondent Zip Codes

Zip Code	N	%
10451	32	10
10452	125	39
10456	57	18
10453 (bordering)	19	6
10454 (bordering)	5	2
10455 (bordering)	9	3
10457 (bordering)	56	17
10459 (bordering)	6	2
10460 (bordering)	13	4
TOTAL IN AREA (including bordering)	322	100
(Out of area)	(106)	
(No zip given)	(29)	

Figure 5: Method of Transportation to Work or School (Alone or in Combination)

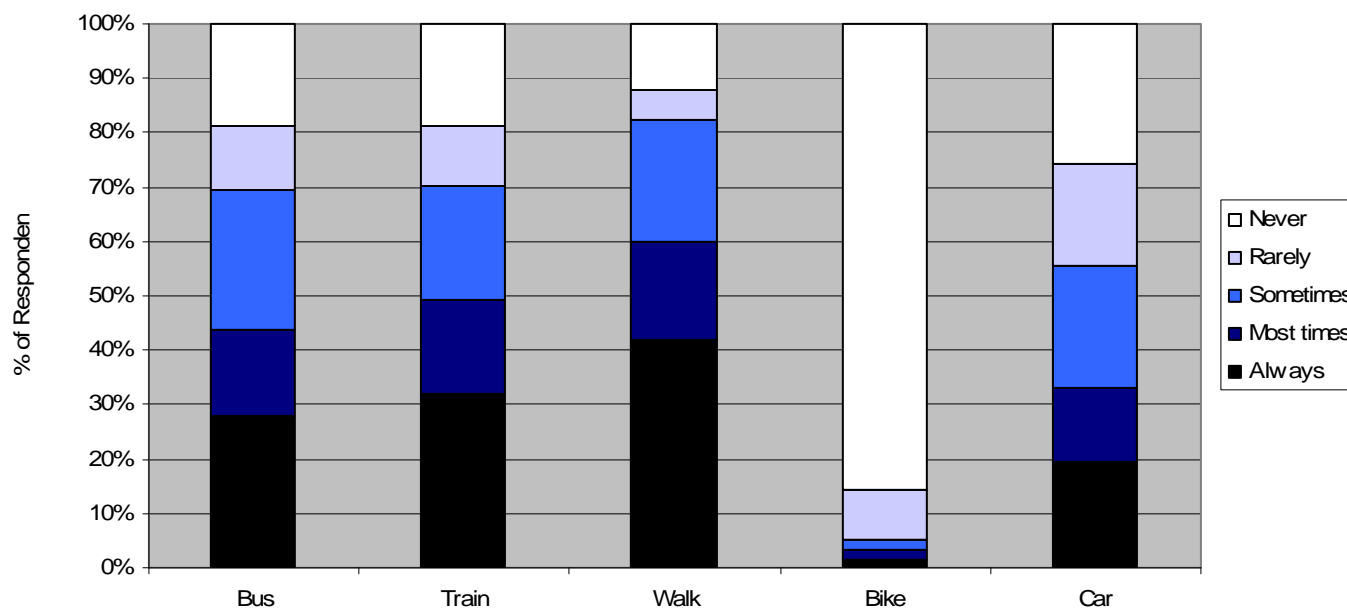
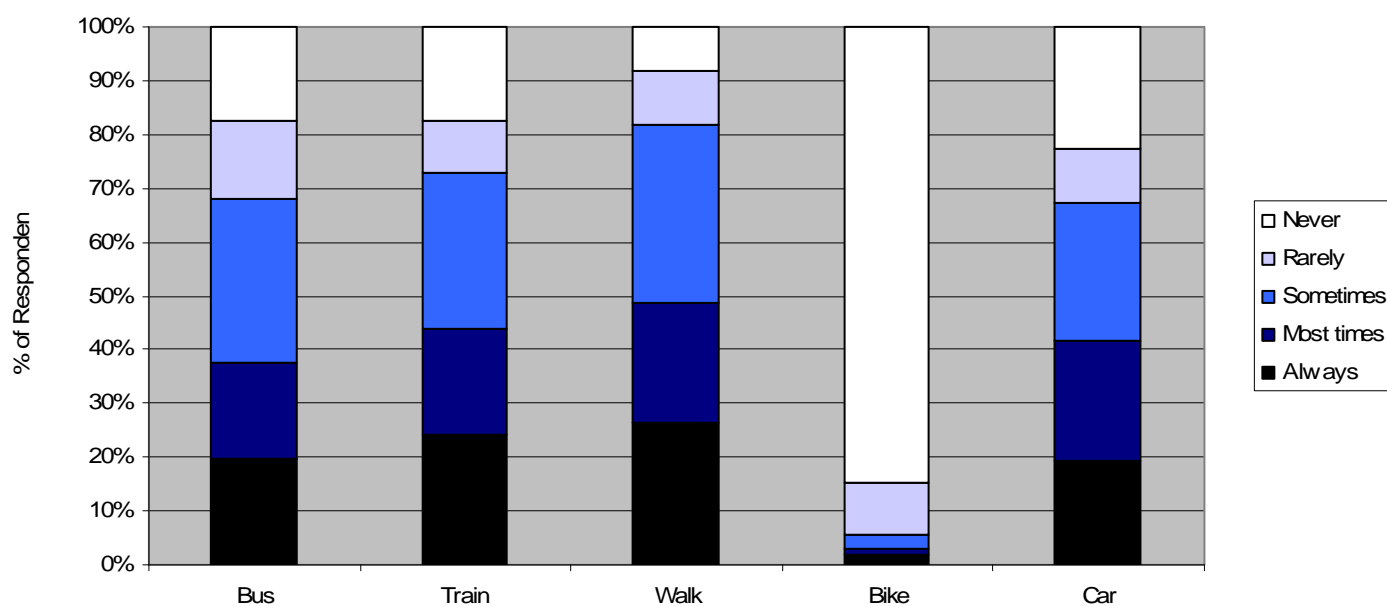


Figure 6: Method of Transportation to Places Other than Work or School (Alone or in Combination)



and school (49%) is significantly less than the percent who said they always or most of the time walk as part of their commute (60%). Moreover, the percent of those who said they always or most of the time drive or ride in a car when traveling to destinations other than work or school rises to 42%, or two out of every five respondents (Figure 6). This statistically significant jump means it is important to understand why and how residents' travel choices change from the regular commute to other trips during the week.

Respondents were also asked how many times a week, and for how long, they engaged in vigorous and moderate physical activity. Unfortunately, the reliability of these answers is quite low. Many people answered only partially, answered incorrectly (reporting activity eight days a week) or answered in ways that seemed highly unlikely (reporting eight hours of vigorous physical activity plus five hours of moderate activity five days a week). Despite the fact that these questions were modeled on the widely-used International Physical Activity Questionnaire, these issues were most probably due to misunder-

standings about the definition of vigorous and moderate activity or about the structure of the question. Given previous research from the NYC DOHMH on this population, it is likely these specific numbers should be disregarded in favor of findings from more successful assessments of this type.

Walking Opportunities

The next section of the survey asked respondents what makes their current neighborhoods pleasant or unpleasant for walking to a destination. Answer categories were directly drawn from the field observation findings. Almost half of respondents said gardens or parks make their neighborhood pleasant for walking. The next most popular reason was the likelihood of seeing people on the street. People also reported liking that there are

many places to go and trees and bushes throughout the neighborhood (Figure 7).

Among those features that make a neighborhood unpleasant for walking to a destination, fear of crime received the most responses with over half of respondents citing this reason. Just behind it, at 45% and 42% of respondents respectively, were piles of garbage or open dumpsters and bad smells or pollution. Sidewalk cracks and misalignments, dangerous traffic and noise from construction, trains or traffic each were chosen by a little over a third of respondents (Figure 8). Most of these findings directly support those found in field observation.

Figure 7: Features of Current Neighborhood that Make it Pleasant for Walking to a Destination

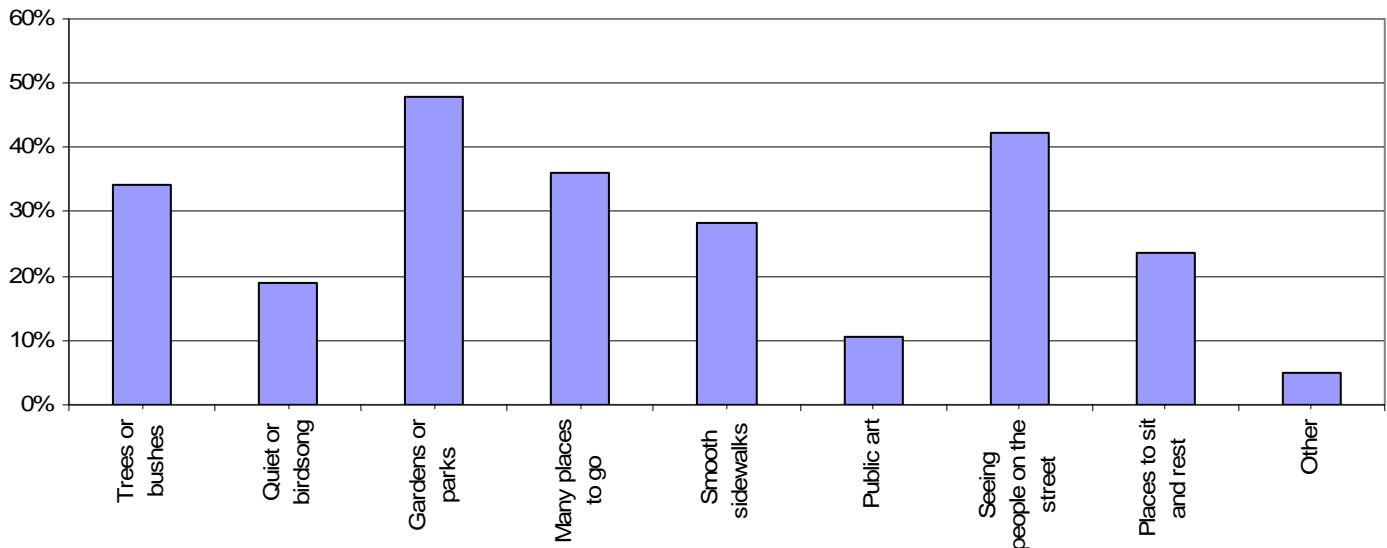
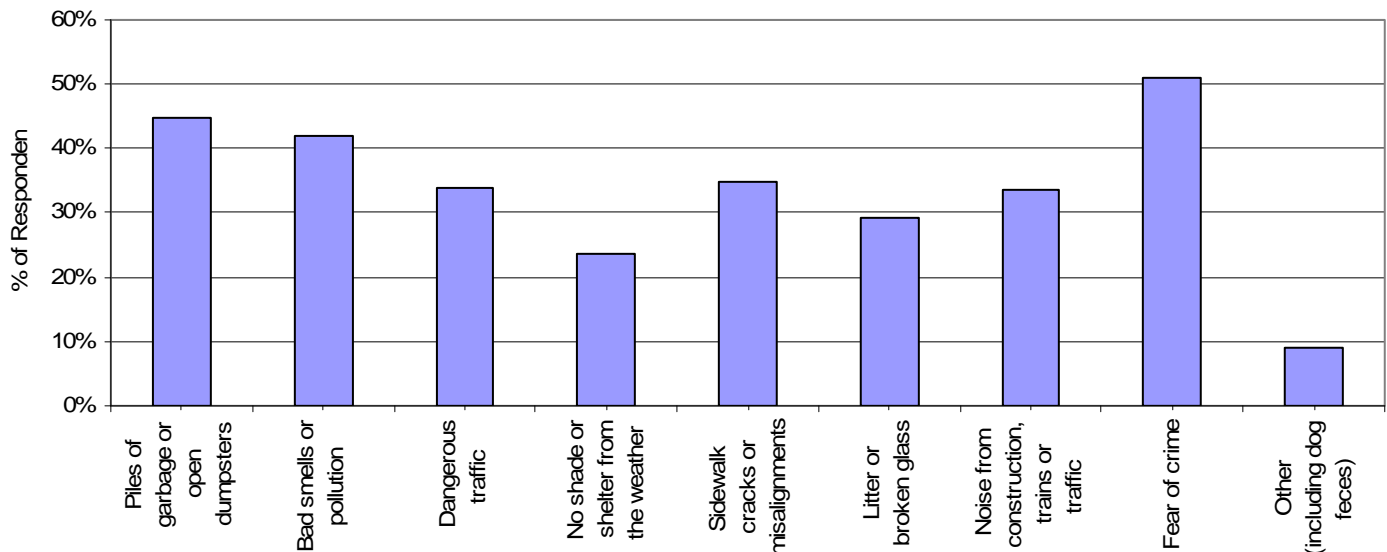


Figure 8: Features of Current Neighborhood that Make it Unpleasant for Walking to a Destination



Recreational Opportunities

The next section of the survey asked respondents to discuss their access to, use of and desire for recreation facilities including gyms, fitness classes, dance classes, parks/playgrounds, bike routes/lanes and off-road trails. Answers for the first three types of facilities are relatively similar and can therefore be examined together. About a third of respondents said they had a gym or fitness class in their neighborhood, and about 20% said they had a dance class in their neighborhood. However, only 25-38% of people with access to these facilities said they used them. On the other hand, a large majority of those who do *not* have access to these facilities in their neighborhood said they *would* use them. Over 85% of those who do not have access to gyms and fitness classes said they would use them if they were available, and 73% of those without dance classes said they would use them (Figure 9). This somewhat contradictory finding will be addressed in more detail in the discussion.

Nearly 90% of respondents said that they have access to a park or playground, and nearly 90% of those people said they use it. This finding, in combination with the earlier finding on how gardens and parks make a neighborhood pleasant, gives very strong support for parks' and playgrounds' high level of popularity among Highbridge/Morrisania residents. Bike routes/lanes and off-road trails were both less accessible to residents than any of the other facilities, though 80% of those without off-road trails said they would use them if they were accessible. About 50% of those without bike lanes/routes aid they would use them if they were available.

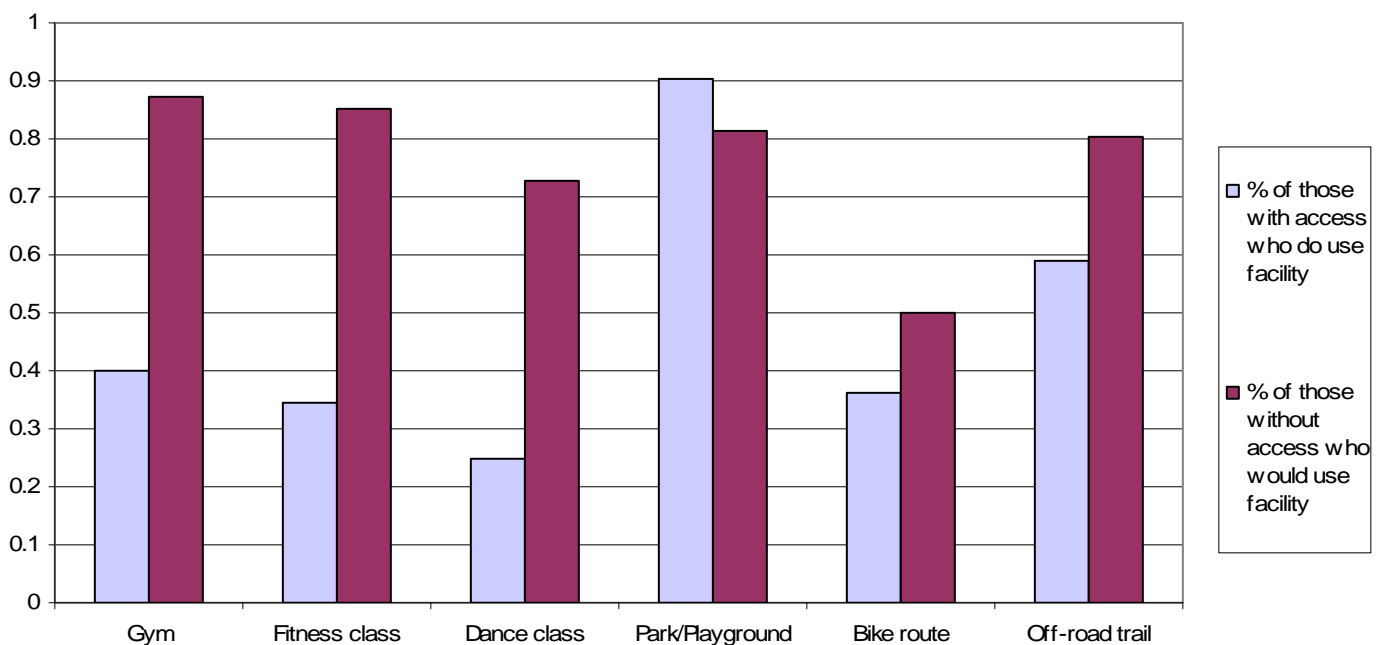
Fitness Knowledge

The last section of the survey tested respondents on their knowledge of fitness guidelines as set by the federal government. Just under two-thirds of respondents who responded to the question correctly answered that the government recommends 30 minutes a day of moderate activity on most days of the week. Given that the answer categories were relatively close together (between 10 and 15 minute intervals), this implies a relatively high level of accuracy on the question. Respondents were also quite accurate in stating strength training guidelines. Though only 41% chose the correct requirement of twice a week, another 45% chose the next highest answer category of four times a week. It does not seem that respondents were unaware of fitness guidelines, and in fact may tend to overestimate requirements.

Discussion

This discussion first focuses on the current state of physical activity and awareness of guidelines among Highbridge/Morrisania residents. From there it uses the four measurements of how "activity-friendly" a community is—accessibility, walkability, pleasantness and safety—to frame an exploration of the remaining findings. To provide a basis for comparison, we examine our findings against those from a major study at the University of North Carolina examining the relationship between the built environment and physical activity (<http://planningandphysicalactivity.unc.edu>). This study sampled 3,632 segments across five study areas in Montgomery County, Maryland. These study areas include two urban areas (Bethesda

Figure 9: Use of and Desire for Recreational Facilities



and Forest Glen), two suburban areas (Four Corners and Lay-hill) and one rural area (Olney). Though the audit tool used to measure these segments is different from the one used in this study, any similarities or differences in findings will be based solely on those measures that are comparable across tools.

Current Activity & Awareness

Survey findings show a majority of residents are regularly incorporating walking into their daily commute. This number drops significantly, however, to less than half of respondents when looking at how they get to places other than work or school. Similarly, about a third of respondents regularly take a car as part of their commute, but over 40% take a car on other trips during the week. Activity patterns therefore depend very much on the purpose of the trip. Any effort to change these patterns needs to attend to the various reasons people are heading out into their community. Since people are more likely to drive and less likely to walk to destinations other than work or school, it might be most effective to focus alternative transportation campaigns on these trips especially.

As for awareness, survey findings show respondents are indeed aware of government guidelines for physical activity, including those for both moderate activity and strength training. If there is any confusion, it is in overestimating rather than underestimating fitness guidelines for strength training. It does not seem that community efforts should therefore focus on education about fitness guidelines, but might instead focus on incorporating these guidelines into daily living. This option is discussed further in the final planning section of the report.

Accessibility

In accessible environments, residents can easily find natural or built spaces in which to engage in walking, biking or other exercise. Field observation in Highbridge/Morrisania found a quarter of segments contained a public recreation facility (e.g. a park, playground, sports field or basketball court). Two of the three neighborhoods were bordered by large parks with playgrounds, courts and fields and the last had no large park but many community gardens. Comparing these findings to the Maryland data, only between six and eight percent of segments in any of the five Maryland study areas contained recreational uses. Therefore, the presence of public recreational facilities can be seen as quite high in Highbridge/Morrisania in comparison with these other urban, suburban and rural areas in Maryland.

A high level of park or playground accessibility may create opportunities for both routine and planned (recreational) exercise. Survey findings show public recreation facilities play a key role in shaping how residents feel about walking in their neighborhoods. Parks and gardens were the most popular reason respondents gave for why their neighborhood was pleasant for walking. They also use the parks for recreational activity. Nearly 90% of respondents said that they have access to a park or playground, and nearly 90% of those people said they use it.

Therefore, there is a crucial role for parks and playgrounds in helping people engage in both routine walking and planned exercise.

Other recreational facilities also play a role in improving fitness levels, though that role is less clear than that of parks and playgrounds. Only one segment observed in Highbridge/Morrisania included an indoor fitness facility, though others that are less immediately observable may also be present. For example, fitness classes like those offered by the Shape Up New York program are offered around New York City, including in a community center in Melrose. It is clear, however, that these facilities are less accessible than parks and playgrounds.

In addition, it is unclear what level of support they receive from residents. Survey findings showed that of those with access to a gym, fitness class or dance class, between 25 and 38% of people said they used these facilities. Among those without access to these facilities, however, over 85% said they would use a gym or fitness class and 73% said they would use a dance class. There is therefore a disconnect between the desire for and the actual use of these types of recreational facilities. It may be the case that while gyms and fitness classes sound good to residents, they may not in the end be able to find the time to incorporate recreational physical activity into their daily lives. One potential exception to this finding is off-road trails: since there were not enough people with access to such trails, it is unknown how their current use compares to their imagined use. The desire for these trails is quite high at four out of five respondents claiming they would use them if they were available.

Walkability/ Bikability

Walkable neighborhoods feature mixed commercial and residential space, high levels of connectivity and functional sidewalks. Field observation, mapping analysis and survey responses all reveal that there are many places to go within a short distance and mixed-use development is predominant in Highbridge/Morrisania. The most highly urban area in the Maryland study, Bethesda, showed only 17% of segments with commercial use, versus the 67% of segments with retail or service sampled in Highbridge/Morrisania. Nearly all buildings were right up against the sidewalk, making pedestrian access to them relatively easy. By way of comparison, almost three quarters of the segments in Bethesda, Maryland were more than 20 feet from the sidewalk. It is important to balance these findings with the fact that businesses in the South Bronx varied widely in upkeep, with some showing visible signs of being closed indefinitely. In addition, many buildings were under construction or repair, with scaffolding and loose wires that sometimes impeded pedestrian passage.

Transit access in Highbridge/Morrisania is quite extensive, present in just under a third of segments, but varies in both connectivity and condition of its infrastructure. Public transportation is more accessible in Highbridge/Morrisania than it is in the urban areas of Bethesda and Forest Glen, Maryland, where only between 9 and 12% of segments had transit access. Survey findings show residents use buses and trains at a high rate both

on their commute and as part of other trips during the week. A highly connected public transportation system plays a prominent role in helping people navigate their daily life in the South Bronx.

Field observation revealed that Highbridge/Morrisania also can boast a high level of sidewalk connectivity. Sidewalks were present in nearly all segments, and were wide enough and free enough from obstructions so as to *seem to* permit generous passage by residents. However, though sidewalks are plentiful and wide, nearly 70% of those observed were plagued with major cracks and misalignments, making smooth passage for small children, elderly residents, and those with strollers and wheelchairs quite difficult. Over a third of survey respondents cited sidewalk cracks and misalignments as interfering with the walkability of their neighborhoods. In addition, 40% of the segments sampled in Highbridge/Morrisania included a steep slope. This is much higher than the 2% of segments with steep hills in Forest Glen and Bethesda. The South Bronx is also therefore relatively hilly. This means it is very important to take into account not only the number and width of sidewalks but also how passable they are in determining connectivity.

As observed through the field inventory and mapping, bike lanes and routes are rare in the South Bronx, and those that are present are often unusable due to parked cars and other obstructions. Lanes were also often poorly marked and on streets that field observers noted were much too busy for safe bicycling. Only 3% of residents said they regularly use a bike on their commute or to other destinations, but about half of respondents said they would use a bike lane for recreational activity if it were accessible. It therefore seems that if biking opportunities were improved, more residents might choose to ride a bike for either transportation or recreation.

Pleasantness

Residents in pleasant environments benefit from attractive surroundings and friendly neighbors that together encourage outdoor activity. Highbridge/Morrisania revealed a respectable rate of tree shade, with nearly two thirds of sampled segments having at least some shade. However, this rate did not approach the level found in the urban areas of Forest Glen and Bethesda, Maryland, where 85-89% percent of observed segments included at least some tree shade. In addition, tree shade in the South Bronx was somewhat uneven—on one side only or from trees in varying condition. About a third of survey respondents said that trees or bushes made their neighborhood pleasant for walking, underlining their value to South Bronx residents.

Adding to the pleasant surroundings in Highbridge/Morrisania, just under a third of segments contained benches for resting and a quarter included public art in the form of murals or sculptures. By contrast, only 13% of segments in Bethesda included benches. Just under a quarter of survey respondents stated that places to sit and rest make their neighborhood pleasant for walking.

Highbridge/Morrisania is also very socially active. Field observation revealed the near-ubiquitous presence of people being

active on the street, both adults and children. In most of these situations, people were visibly engaged in friendly play or socializing, chatting, smiling or laughing with one another. Seeing people on the street was the second most popular reason survey respondents gave for why their current neighborhood is pleasant for walking. This type of public interaction can be extremely useful not only for encouraging outdoor engagement, but also for community efforts in the form of the public fitness campaigns or events discussed in the planning section of this report.

Several important factors contributed to making neighborhoods unpleasant to walk in. Dumpsters or large piles of garbage appeared in four out of every five segments, with over half of the dumpsters leaking garbage and smells onto the street. Two out of five survey respondents cited garbage and bad smells as reasons their neighborhoods are not pleasant for walking. Field observation and survey respondents also revealed that residents in Highbridge/Morrisania regularly encountered loud noises from construction, trains and traffic. Smaller nuisances, including graffiti, standing water and litter, were found at a lower but still considerable rate in Highbridge/Morrisania. Finally, dog feces, the most popular write-in answer on the survey, were an obvious irritation to residents.

Safety

Safe places to exercise are perceived are safe from both traffic and illegal activity. Over a third of respondents said dangerous traffic made their neighborhoods unpleasant, a finding which may be related to the fact that only 5 out of 48 total segments contained a posted speed limit. In both Bethesda and Forest Glen, 17% of segments included posted speed limits. Though crosswalks were present, two of every five were only on one side or in significant disrepair. Traffic calming devices were nearly nonexistent. Unfortunately, without further exploration it is difficult to know what residents thought made traffic in the South Bronx particularly dangerous—whether they thought drivers were speeding, ignoring traffic signs, crossing pedestrian paths or some other option.

Residents reported fear of crime made their neighborhoods unpleasant for walking. Some respondents also wrote in their frustration with drug-related activity. Field observation could not support any predominance of illegal or aggressive activity in the sampled neighborhoods, other than a few shouted fights on the street. However, the large number of vacant lots, particularly in the Melrose Commons neighborhood, might contribute to a sense of disorder and danger in a neighborhood. Some scholars argue that if an area seems neglected, this raises fears about criminal activity (Lewis, 1980; Perkins and Taylor, 1996)

All of the above findings reveal a complex community with significant opportunities and obstacles. Planning any future campaigns will need to attend to these characteristics to adequately meet the health and fitness needs of South Bronx residents.

Planning for the Future

Findings from WHEDCo's South Bronx Community Fitness Assessment help to inform a path for future efforts focused on improving the health of South Bronx residents. Discussions with health and social service practitioners about these findings reveal three potential directions. Community education, community advocacy and resource development each provide the means for improving fitness awareness and opportunities, thereby helping residents meet their fitness needs.

Community Education

This report argues residents are aware of fitness guidelines and therefore do not need further education on what those guidelines are. Community education *can* be effective, however, if it is directed towards how residents can meet these guidelines by incorporating physical activity into their daily activities. Education campaigns of this type, past and present, provide tips and tricks for raising the level of fitness in residents' daily routines, including getting off the subway or bus one stop early or taking the stairs instead of the elevator.

Findings from this assessment support the notion that this type of campaign could be effective. People already incorporate walking into their daily commute—if they were able to fit in somewhat longer of a walk to or from the bus/train stop, this might help them meet the recommended guideline of 30 minutes a day of moderate activity most days of the week. The same holds true for climbing stairs: if it takes ten minutes to climb the stairs to the tenth floor of a building, three trips up or down each day will cover the requirement.

One major benefit of this type of campaign is that it is relatively easy to undertake. A recent stair campaign by the NYC DOHMH showed that just placing signs in key areas of a building can significantly increase stair use. A community-based organization has a natural inroad for this type of education, as literature and counseling on health and fitness can occur one-on-one as part of the client meeting. One of our project partners, the Morrisania Diagnostic and Treatment Center, already runs an annual health fair in August on the streets of West Concourse. The high level of sociability in Highbridge/Morrisania means these types of gatherings are well-attended and therefore another easy avenue for fitness education.

Community Advocacy

A second potential direction for addressing fitness opportunities is community advocacy. The first step in this direction would be identifying the issue most important to residents of any given neighborhood, and then finding the appropriate governmental agency responsible for that issue. Given the findings in this assessment, an advocacy campaign could address the condition of sidewalks, the availability and maintenance of bike lanes, the appropriate disposal of garbage, the level of crime and the effective regulation of traffic for pedestrian safety.

This avenue requires a great deal of community organization, from beginning to end. However, there are partnerships and networks already in place in Highbridge/Morrisania that could be utilized for such an effort. For example, we could report our findings to a Community Board meeting and from there, residents could organize around a preferred issue. Community practitioners also suggested community education and advocacy could be combined by providing leadership training that would empower residents to speak up about the conditions of their neighborhoods.

Resource Development

A third campaign avenue directly addresses the lack of particular physical fitness resources by building or revitalizing them in the community. This can include both formal and informal resources, such as fitness centers, parks, dance classes and walking clubs. The development of fitness centers is a complicated process, evidenced by the closing of WHEDCo's fitness center in 2006. Any plan to bring one into the community would need to carefully attend to needs for long-term sustainability.

This report argues parks and playgrounds are highly valuable resources in the South Bronx. Any effort to revitalize parks or build new ones would only improve both residents' access to a fitness resource and their perception of their neighborhoods as pleasant for routine walking. Practitioners report less formal resources such as dance classes and walking clubs are already gaining in popularity in the South Bronx. Shape Up New York and ZOOMBA dance classes consistently report high levels of attendance, and individual organizations are starting walking clubs for their clients.

Arguably the most visible option, resource development also requires a great deal of coordinated effort and up-front capital. For these reasons, the development of formal fitness resources may not be the most viable option for many organizations other than large corporations or governmental agencies. Informal fitness resources, however, might have much wider potential, as community-based organizations' direct access to clients and pre-existing support and activity groups may translate relatively smoothly into fitness clubs.

Any plan to improve the health of residents in Highbridge/Morrisania must take into account the state of awareness and opportunities as they stand now. But the possibilities for change are wide-ranging and potentially very exciting. With enough creativity, coordination and passion, individuals, families and organizations working together can create a healthier South Bronx.

Works Cited

Alfonzo, M., Boarnet, M. et al. (2008). "The relationship of neighbourhood built environment features and adult parents' walking". *Journal of Urban Design*, 13:1, 29-51.

Birnbaum, A. (2008). "Montclair State University Adolescent Activity Survey". Draft requested from author.

Boarnet, M., Day, K. et al. (2006). "The Irvine-Minnesota Inventory to measure built environments: reliability tests". *American Journal of Preventive Medicine*, 30:2.

Brownson, R., Hoehner, C. et al. (2004). "Reliability of two instruments for auditing the environment for physical activity". *Journal of Physical Activity and Health*, 1:3.

Brownson, R., Housemann, R., Brown, D. et al. (2000). "Promoting physical activity in rural communities: Walking trail access, use and effects". *American Journal of Preventive Medicine*, 18:3, 235-241.

Center for Disease Control and Prevention. (2008). "Physical Activity for Everyone: Guidelines: Adults". Retrieved October 6, 2008, from <http://www.cdc.gov/physicalactivity/everyone/guidelines/adults.html>

Clifton, K., Livi Smith, A., and Rodriguez, D. (2007). "The development and testing of an audit for the pedestrian environment". *Landscape and Urban Planning*, 80:1-2, 95-110.

Committee on Physical Activity, Health, Transportation and Land Use. (2005). "Does the built environment influence physical activity? Examining the evidence. (Special Report 282)". Washington, DC: Transportation research Board/Institute of Medicine. Retrieved July 7 from <http://onlinepubs.trb.org/Onlinepubs/sr/sr282summary.pdf>

Day, K. (2006). "Active living and social justice: Planning for physical activity in low-income, Black and Latino communities". *Journal of the American Planning Association*, 72:1, 88 – 99.

Day, K., Boarnet, M. et al. (2006). "The Irvine-Minnesota Inventory to measure built environments: development". *American Journal of Preventive Medicine*, 30:2, 144-152.

Ewing, R. and Kreutzer, R. (2006). "Understanding the relationships between public Health and the built environment: A report prepared for the LEED-ND Core Committee." Retrieved July 21 from http://www.goforyourlife.vic.gov.au/hav/articles.nsf/practitioners/Understanding_the_relationship_between_public_health_and_the_built_environment?

Frank, L., Schmid, T., Sallis, J. et al. (2005). "Linking objectively measured physical activity with objectively measured urban form". *American Journal of Preventive Medicine*, 28:2S2, 117-125.

Giles-Corti, B. and Donovan, R. (2002). "The relative influence of individual, social and physical environment determinants of physical activity". *Social Science and Medicine*, 54:12, 1793-1812.

Gordon-Larsen, P., Nelson, M., Page, P., and Popkin, B.

(2006). "Inequality in the built environment underlies key health disparities in physical activity and obesity". *Pediatrics*, 117:2, 417-424.

Hoehner, C., Brennan Ramirez, L., et al. (2005). "Perceived and objective environmental measures and physical activity among urban adults". *American Journal of Preventive Medicine*. 28:2S2, 105-116.

Huston, S., Evenson, K., Bors, P. et al. (2003). "Neighborhood environment, access to places for activity, and leisure-time physical activity in a diverse North Carolina population". *American Journal of Health Promotion*, 18:1, 58-69.

Jacobsen, P.L. (2003). "Safety in numbers: more walkers and bicyclists, safer walking and bicycling". *Injury Prevention*, 9, 205-209.

Kerr, J. (2008). "Designing for active living among adults: Research summary". Robert Wood Johnson Foundation. Retrieved July 21 from http://www.activelivingresearch.org/files/Active_Adults.pdf

Lewis, D. (1980). "Fear in the neighborhoods: An investigation of the impact of crime". *Journal of Research in Crime and Delinquency*, 17:2, 160 - 189.

Loukaitou-Sideris, A. (2004). "Transportation, Land Use, and Physical Activity: Safety and Security Considerations." Prepared for the Transportation Research Board and the Institute of Medicine Committee on Physical Activity, Health, Transportation and Land Use". Retrieved July 7 from <http://trb.org/downloads/sr282papers/sr282Sideris.pdf>

NutritionQuest. (2008). "BDDS Adult Physical Activity Screener". Sample requested from NutritionQuest.com

Perkins, D. and Taylor, R. (1996). "Ecological assessments of community disorder: Their relationship to fear of crime and theoretical implications". *American Journal of Community Psychology*, 24:1, 63 - 107.

Powell, K., Martin, L., and Chowdhury, P.P. (2003). "Places to walk: convenience and regular physical activity". *American Journal of Public Health*, 93, 1519 – 1521.

Powell, L., Slater, S., Chaloupka, F. (2004) "The relationship between community physical activity settings and race, ethnicity and socioeconomic status". *Evidence-based Preventive Medicine*, 1:2, 135-144.

Power, L., Slater, S., Chaloupka, F., Harper, D. (2006). "Availability of physical activity-related facilities and neighborhood demographic and sociodemographic characteristics: A national study". *American Journal of Public Health*, 96:9, 1676-1680.

Saelens, B., Sallis, J., Black, J. et al. (2003). "Neighborhood-based differences in physical activity: An environmental scale evaluation". *American Journal of Public Health*, 93:9, 1552-1558.

Sharpe, P., Granner, M., Hotto, B. et al. (2004) "Association of environmental factors to meeting physical activity recommendations in two South Carolina counties". *American Journal of*

Health Promotion, 18:3, 251-257.

Task Force on Community Preventive Services. (2002). "Recommendations to increase physical activity in communities." *American Journal of Prevention Medicine*, 22:4S, 67-72.

Troped, P., Saunders, R., Pate, R. et al. (2001). "Associations between self-reported and objective physical environment factors and use of a community rail-trail". *Preventive Medicine*, 32:2, 191-200.

Wilcox, S., Castro, C., King, A. et al. (2000). "Determinants of leisure time physical activity in rural compared with urban older and ethnically diverse women in the United States". *Journal of Epidemiology and Community Health*, 54:9, 667-672.

Zhu, X. and Lee, C. (2008) "Walkability and safety around elementary schools: Economic and ethnic disparities". *American Journal of Preventive Medicine*, 34:4, 282-290.

Appendix A: Active Neighborhood Checklist with WHEDCo Edits (Front)

Active Neighborhood Checklist

Date: _____ **Segment ID:** _____
Auditor ID: _____ **Neighborhood ID:** _____
Street Name: _____
Start Time: _____

Is any building or section of the sidewalk or roadway under construction or being repaired?

- ☐ Yes, specify: _____
☐ No

A. What land uses are present?

1. Are residential and non-residential land uses present?

- ☐ All residential
☐ Both residential and non-residential
☐ All non-residential

2. What is the *predominant* land use?

Check one or two that apply.

- ☐ Residential buildings/yards
☐ Commercial, government or religious buildings
☐ School/school yards (elementary, middle, high school)
☐ Parking lots or garages
☐ Park with exercise/sport facilities or playground equipment
☐ Vacant lot/abandoned building
☐ Designated green space
☐ Other non-residential, specify: _____

3. What types of residential uses are present?

Select all that apply.

- ☐ None
☐ Abandoned homes
☐ Single family homes
☐ Multi-unit homes (2-4 units)
☐ Apartments or condominiums (>4 units, 1-4 stories)
☐ Apartments or condominiums (>4 stories)
☐ Apartment over retail
☐ Other (retirement home, mobile home, dorms)

4. What parking facilities are present?

Select all that apply.

- ☐ None (no parking allowed on street at any time)
☐ On-street, including angled parking
☐ Small lot or garage (<30 spaces)
☐ Medium to large lot or garage

5. What *public* recreational facilities and equipment are present (including in the schoolyard if publicly accessible)?

Select all that apply.

- ☐ None
☐ Park with exercise/sport facilities or playground equipment
☐ Off-road walking/biking trail
☐ Sports/playing field
☐ Basketball/tennis/volleyball court
☐ Playground
☐ Outdoor pool
☐ Other: _____

6. What types of non-residential uses are present?

Select all that apply.

- ☐ None
☐ Vacant lot/abandoned building
☐ Small grocery or deli, convenience store, or pharmacy
☐ Food establishment (restaurant, bakery, café, coffee shop, bar)
☐ Entertainment (movie theatre, arcade)
☐ Adult retail (liquor store, adult store)
☐ Other retail (general store, hardware, furniture, clothing)
☐ Government service (library, post office, court house)
☐ Financial service (bank, check cashing, tax preparation)
☐ Other service (laundry/cleaners, hair/nail salon, medical, travel)
☐ Religious establishment (church, temple, mosque)
☐ School (elementary, middle, high school)
☐ College, technical school, or university
☐ Community center or social service organization
☐ Police precinct or fire department
☐ Indoor fitness facility

Large commercial or industrial buildings:

- ☐ High-rise (>5 stories)
☐ Big box store (e.g., Walmart, Office Depot, Best Buy)
☐ Mall
☐ Strip mall
☐ Supermarket
☐ Warehouse, factory, or industrial building

Land use notes (include distinct characteristics like natural features or major barriers):

Appendix A: Active Neighborhood Checklist with WHEDCo Edits (Back)

B. Is public transportation available?

	No	Yes, one side	Yes, both sides
1. Any transit stop (bus, subway, other)?	go to C1		
1a. Bench or shelter at stop?			
Transit stop notes (type and condition of stop):			

C. What street characteristics are visible?

	No	Yes
1. Enter posted speed limit (99 if none):		
2. Enter special speed zone (99 if none):		
3. Enter total # of lanes on street:		
4. Marked lanes?		
5. Median or pedestrian island?		
6. Turn lane?		
7. Crosswalk for crossing this segment?		
8. "Walk" / "Don't Walk" signal?		
9. Traffic calming device (roundabout, curb bulb-outs, speed bump, brick road, other)?		
If yes, specify type(s):		

10. Cul-de-sac (dead-end street)?		
Street characteristic notes (amount and speed of traffic, condition of crossing aids, lots of cars pulling in/out driveways):		

D. What's the pedestrian environment like?

	No	Yes
1. Are most non-residential buildings right up next to the sidewalk?		
2. Any benches (excluding transit stop)?		
3. Public art (e.g., murals, sculptures)?		
4. Dumpsters or piles of garbage?		
5. Standing water?		
6. Broken or boarded-up windows?		
7. Graffiti (e.g., fill-ins, throw-ups)?		
8. Litter or broken glass?		None or a little Some or a lot
9. Tree shade on the walking area?		None or a little Some or a lot
10. Steepest slope along walking area?		Flat/gentle Moderate Steep

Pedestrian environment notes (note anything distinct about the environment like views, flowers):
--

E. Do you have a place to walk or bicycle?

	No	Yes, one side	Yes, both sides
1. Sidewalk present?	go to E10		
2. Any grassy or other buffer between curb and sidewalk <i>along most of the segment</i> ?	go to E3		
2a. Tree(s) in buffer?			
3. Sidewalk continuous within segment?			
4. Sidewalk continuous between segments at both ends?			
5. Width ≥5 ft for <i>most</i> of the sidewalk?			
6. Width <3 ft for <i>any part</i> of the sidewalk?			
7. Any missing curb cuts or ramps at intersections or driveways?			
8. Any major misalignments or cracks in the sidewalk?			
9. Any permanent obstructions (trees, signs, tables) blocking the 3-ft walk area?			
10. If a sidewalk is not present on any part of the segment, do you have another safe place to walk, including:			
Street or shoulder (if safe)?			
Unpaved pathway?			
Other? Specify: _____			
11. Marked bike lane			
12. Signed bike route			
13. Any permanent obstructions in the bike lane or route (including drainage grates, parked cars)?			

Walking/biking notes (note specific condition of sidewalk or bike lane/route):
--



F. What's the social environment like?

	No	Yes
1. Are there any people in this segment?	go to end	
2. Are any children being active?		
3. Are any adults being active?		
4. Are people chatting, smiling or laughing?		
5. Do you see any street vendors?		
6. Are people acting aggressively?		
7. Are there loud noises?		
8. Are there unpleasant smells?		
8. Are there any stray animals?		

Social environment notes (describe above in further detail):
--

Stop time: _____

Appendix B: South Bronx Community Fitness Survey (Front)

SOUTH BRONX COMMUNITY FITNESS SURVEY	
 	<p>THANK YOU for taking the time to complete this short survey. The Women's Housing and Economic Development Corporation (WHEDCo), a social service nonprofit located in the South Bronx, is conducting this survey in order to assess our community's knowledge of and access to fitness resources.</p> <p>We will use this information to make sure our programs meet the health and fitness needs of residents in the South Bronx. This survey is completely anonymous; we will not use your name at any time. We greatly appreciate your participation.</p>
CURRENT ACTIVITY	

These first few questions ask about your activity **IN THE PAST WEEK**.

1. In the past week, when leaving the house for WORK OR SCHOOL, how often did you do the following, alone or in combination, to get there? PLEASE MARK ONE ANSWER FOR EACH TRAVEL OPTION.

	Always	Most times	Sometimes	Rarely	Never
A) Take the bus					
B) Take the train					
C) Walk					
D) Ride a bicycle					
E) Drive or ride in a car					

2. In the past week, when leaving the house for trips OTHER THAN WORK OR SCHOOL, how often did you do the following, alone or in combination, to get there? PLEASE MARK ONE ANSWER FOR EACH TRAVEL OPTION.

	Always	Most times	Sometimes	Rarely	Never
A) Take the bus					
B) Take the train					
C) Walk					
D) Ride a bicycle					
E) Drive or ride in a car					

3. Imagine yourself doing VIGOROUS PHYSICAL ACTIVITY (something that takes hard physical effort), such as heavy lifting at work, digging in your garden, moving furniture or running.

- A) In the past week, how many DAYS did you do vigorous physical activity? _____
- B) On average, how many HOURS and MINUTES did you spend on this type of activity PER DAY? _____
- (hrs) (min)

4. Now imagine yourself doing MODERATE PHYSICAL ACTIVITY (something that takes moderate physical effort), such as carrying light loads at work, sweeping the floor, dancing or bicycling at a regular pace.

- A) In the past week, how many DAYS did you do moderate physical activity? _____
- B) On average, how many HOURS and MINUTES did you spend on this type of activity PER DAY? _____
- (hrs) (min)

(PLEASE TURN OVER)

Appendix B: South Bronx Community Fitness Survey (Back)

SOUTH BRONX COMMUNITY FITNESS SURVEY

WALKING OPPORTUNITIES

Many people in urban communities walk throughout their day to do things like shop, visit friends, do laundry or take their children places. This is easier to do in some neighborhoods than in others.

5. Which of the following things in your neighborhood right now makes it PLEASANT to walk to your destination? PLEASE CIRCLE ALL THAT APPLY.

- | | | |
|--------------------------------|---------------------------|---------------------|
| A) Trees or bushes | B) Quiet or birdsong | C) Gardens or parks |
| D) Many places to go | E) Smooth sidewalks | F) Public art |
| G) Seeing people on the street | H) Places to sit and rest | I) Other: _____ |

6. Which of the following things in your neighborhood right now makes it UNPLEASANT to walk to your destination? PLEASE CIRCLE ALL THAT APPLY.

- | | | |
|---|-------------------------------------|---------------------------|
| A) Piles of garbage or open dumpsters | B) Bad smells or pollution | C) Dangerous traffic |
| D) No shade or shelter from the weather | E) Sidewalk cracks or misalignments | F) Litter or broken glass |
| G) Noise from construction, trains or traffic | H) Fear of crime | I) Other: _____ |

RECREATIONAL OPPORTUNITIES

7. Following is a list of recreational resources. PLEASE CIRCLE whether your neighborhood has each one. IF YES, circle whether you do use it. IF NO, circle whether you would use it.

	HAVE resource?		If YES, do you use it?		If NO, would you use it?	
A) Gym (weights and exercise machines)	YES	NO	YES	NO	YES	NO
B) Fitness class (aerobics, yoga, martial arts)	YES	NO	YES	NO	YES	NO
C) Dance class	YES	NO	YES	NO	YES	NO
D) Park or playground	YES	NO	YES	NO	YES	NO
E) On-road bike route or lane	YES	NO	YES	NO	YES	NO
F) Off-road trail for walking, biking, jogging	YES	NO	YES	NO	YES	NO

FITNESS KNOWLEDGE

The federal government recommends adults get a certain amount of physical activity each week to be fit.

8. From your knowledge of these guidelines, how many minutes of moderate-intensity physical activity (such as fast walking) do they say adults need most days of the week?

- | | | | |
|--------------------|---------------------|---------------------|---------------------|
| A) 5 minutes a day | B) 15 minutes a day | C) 30 minutes a day | D) 45 minutes a day |
|--------------------|---------------------|---------------------|---------------------|

9. From your knowledge of these guidelines, how many days a week should adults do strength training (such as weight lifting?)

- | | | | |
|-----------------|------------------|------------------|------------------|
| A) 1 day a week | B) 2 days a week | C) 4 days a week | D) 6 days a week |
|-----------------|------------------|------------------|------------------|

GENERAL QUESTIONS ABOUT YOU

MALE FEMALE AGE: _____ RACE: _____ ZIP CODE: _____

THANK YOU VERY MUCH FOR YOUR PARTICIPATION!