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**AN EVALUATION OF THE
NEW YORK CITY HOUSING AND NEIGHBORHOOD
INFORMATION SYSTEM (NYCHANIS)**

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December 10, 2004

EXECUTIVE SUMMARY

The New York City Housing and Neighborhood Information System (NYCHANIS) is an Internet-based data source that allows users to access and analyze a wide range of data on the city and its neighborhoods. NYCHANIS contains more than 1,500 variables, which can be analyzed at various geographic scales and presented as tables, maps, and graphs. Besides providing online access to housing and neighborhood data, NYCHANIS also features a forum for on-line discussions with the Commissioner of the New York City Department of Housing Preservation and Development (HPD), and Internet-based bulletin boards on which users can ask HPD staff and other housing and community development experts questions on a variety of topics.

NYCHANIS was developed by the Furman Center for Real Estate and Urban Policy, at the New York University School of Law, with financial support from the U.S. Department of Commerce's Technology Opportunity Program, and other sources. Work on the web site commenced in March 2003 and was completed in January 2004, when the site became available to the public.

This report documents NYCHANIS's development and assesses its first nine months of operation through September 2004. The evaluation is based on web-server data, an on-line survey of users, interviews with key individuals involved in the program's development and implementation, and two focus groups with users from city government and nonprofit housing and community organizations. The main findings are as follows.

Project Implementation

The Furman Center originally planned to complete the NYCHANIS web site by May 2004. The web site was not completed, however, until January, 2004. The main reasons for the delay included: (a) it took longer than expected to select a contractor to develop and maintain the web site; and (b) unrealistic initial expectations of the time required to develop a web site of NYCHANIS's complexity and scope. A prototype of the web site was completed by September 2003. The subsequent three months were spent refining the site to improve its appearance and ease of use. The Furman Center gave NYCHANIS a "soft opening" in January, when it was made available to the public, but not publicized. The site became much better known on February 6th, when the *New York Times* ran an article on NYCHANIS. That day alone brought more than 2,900 people to the NYCHANIS web site.

One aspect of NYCHANIS fell short of expectations. In addition to the interactive data base with capacities for producing tables, maps, and graphs, NYCHANIS also offers an "Information Exchange." This feature consists of a series of bulletin boards and an Electronic Town Hall. The bulletin boards allow users to ask HPD questions on a range of topics pertaining to housing and community development, though one bulletin board focuses specifically on NYCHANIS. The Electronic Town Hall provides a real-time conversation with the Commissioner of HPD. Originally, NYCHANIS planned to hold six Town Hall meetings with the commissioner during the evaluation period. However,

due in part to a changeover in commissioners in March 2004, only one town hall session took place, and that occurred near the end of the evaluation period on September 22. Another factor that slowed the implementation of the Town Halls was the unanticipated need to modify the software NYCHANIS had acquired for this purpose. Partly because of the delay in starting up the Town Halls, the bulletin boards set up for the Information Exchange saw very little use during the evaluation period.

Usage Patterns and Trends

From January 2004 through the end of September, a total of 10,115 people “visited” NYCHANIS and executed a total of 15,690 “sessions.” However, these figures, recorded by NYCHANIS’s computer server, exaggerate the extent to which people actually used the system. In order to go beyond NYCHANIS’s home page and download data, users are required to register by providing their names, zip codes, e-mail addresses, and other information. As shown in Table 1, a total of 5,068 people registered for NYCHANIS, 51 percent of the visitors that clicked onto the NYCHANIS home page. Similarly, while the web server recorded a total of 15,690 sessions during the nine-month evaluation period, nearly half were too brief to download any data or produce maps or other output. Table 1 shows that 56 percent of total sessions extended for one minute or longer and 57 percent involved more than three page views. (It takes a minimum of four page views to yield any output). In absolute numbers, then, the 5,068 registered users executed 8,700 to 8,900 sessions that lasted for more than a minute or extended beyond three page views.

Table A
Summary of NYCHANIS Usage, January to September 2004

Total Users	10,115
Total Registered Users	5,068
Percent Registered Users	50.7
Total Sessions	15,690
Total Sessions Longer than 1 Minute	8,729
Percent Session Longer than 1 Minute	55.6
Total Sessions Involving More Than 3 Page views	8,934
Percent Sessions Involving More Than 3 Page Views	56.9

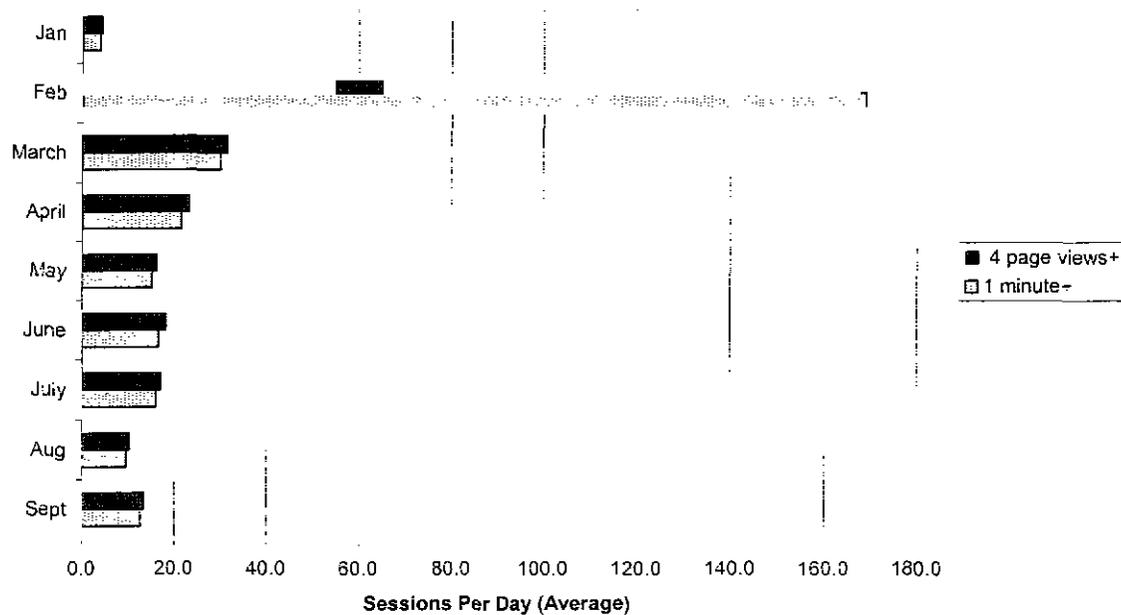
Source: Bowne Management Systems, Inc.

Nearly two thirds (64.5 percent) of the sessions that took place on NYCHANIS during the evaluation period involved individuals who used the system only once. The remaining 33.5 percent of the sessions involved “repeat users” who used NYCHANIS two or more

times. However, when sessions lasting less than 10 seconds are excluded from analysis the percentage of sessions involving one-time-only users drops to 45.5 percent and the percentage involving repeat users rises to 54.5 percent.

Focusing just on sessions lasting one minute or longer, NYCHANIS saw an average of 36 sessions per day during the evaluation period. Usage was greatest in February, especially in the week following the publication of the *New York Times* article. By May, it had receded to an average of about 15 sessions a day and, with the exception of August, remained at about that level for the rest of the evaluation period. A similar pattern prevailed for sessions involving four or more page views.

Figure A
Average Number of Daily Sessions Extending Beyond One Minute or Three Page Views



All but 18 (1.3 percent) of NYCHANIS's 1,395 data indicators were downloaded at least once during the nine-month evaluation period. Users downloaded 37 variables 500 or more times and 199 variables 250 or more times. The indicators used most often pertain to population and demographics, housing values, and housing stock.

User Profile

A wide range of people used NYCHANIS during the nine-month evaluation period. The survey found that about three-fifths of the site's users were men and two-fifths women. Individuals in their 20s, 30s, and 50s each constituted about one-quarter of the respondents, while users in their 40's made up about one-sixth of the respondents, and those 60 and older comprised one-tenth. Nearly 60 percent of the users had graduate

degrees and an additional quarter had undergraduate degrees. Most users rated their computer skills as intermediate or higher.

The largest number of users, 23 percent, came to NYCHANIS out of personal interest and not because of their work. The next largest group, 14 percent, consists of government workers, followed by students and academics (12 percent each). Individuals from nonprofit housing organizations—the targeted audience—comprise nine percent of all users.

Survey respondents most often used NYCHANIS for research reports and market analyses, followed by advocacy, student projects, real estate development proposals, policy memos and program planning.

User Satisfaction and Suggestions for Improvement

The vast majority of respondents are satisfied with NYCHANIS. The survey asked users to rate their satisfaction with the site's overall ease of use, its facility for producing tables, maps, and graphs, and with the site overall. Only a handful of respondents expressed dissatisfaction by these measures. However, while most respondents were satisfied with NYCHANIS, the level of satisfaction was mostly moderate. For example, while 38 percent of the respondents were satisfied with NYCHANIS overall, and 32 percent were very satisfied, only six percent said they were extremely satisfied. There were few differences in the degree of satisfaction among different types of users. Participants in NYCHANIS's three training sessions also expressed a high degree of satisfaction.

In two open-ended questions, the survey asked respondents to identify what they see as NYCHANIS's main strengths and weaknesses. Most respondents emphasized the breadth and accessibility its data as the system's principal strength. The most frequent criticism of NYCHANIS, by far, concerned the difficulty of learning to use the system and inadequate ease of use. Specific suggestions for improving NYCHANIS included the inclusion of additional neighborhood indicators and new ways of presenting and organizing the site's existing data, such as by making data more consistently available at different geographic scales.

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INTRODUCTION

The New York City Housing and Neighborhood Information System (NYCHANIS) is an Internet-based data source that allows users to access and analyze a wide range of data on the city and its neighborhoods. NYCHANIS contains more than 1,500 variables, which can be analyzed at various geographic scales and presented as tables, maps, and graphs. Its purpose “is to allow a wide variety of users to gain access to previously unavailable data and manipulate the data according to their personal and professional needs.”¹ Besides providing online access to housing and neighborhood data, NYCHANIS also features a forum for on-line discussions with the Commissioner of the New York City Department of Housing Preservation and Development (HPD), and Internet-based bulletin boards on which users can ask HPD staff and other housing and community development experts questions on a variety of topics.

NYCHANIS was developed by the Furman Center for Real Estate and Urban Policy, at the New York University School of Law. NYCHANIS builds on a previous initiative of the Furman Center, its annual report on *The State of New York City's Housing and Neighborhoods*. First published in 2001, this report includes text, tables, maps, and charts on a wide range of topics germane to the city's housing and neighborhoods. The report is mailed to several hundred organizations and is available as a PDF file on the Furman Center's web page. One limitation of the report format is that practitioners, policy makers, researchers, students, and other potential audiences are constrained in how they can present and manipulate its data. In order to create customized tables, maps, and charts, readers must manually enter the data from the report into a computer file for further analysis and formatting. In addition, users are constrained

¹ NYCHANIS *Instruction Manual*, 2004: p. 1.

by the geographic scales and data categories provided in the report; they are unable to choose the parameters that best fit their needs.

NYCHANIS was designed to provide the flexibility that was lacking in the Furman Center's annual reports on the *State of New York City's Housing and Neighborhoods*. It provides data on the same variables covered in the report—as well as on other variables not included. It allows users to download data at the scale they require and gives them the opportunity to present this information in customized maps and other exhibits. NYCHANIS' goal is “to provide housing organizations and community development corporations (CDCs), as well as the general public, with the data they need to monitor neighborhood conditions, plan programs that will improve their housing and neighborhoods, and obtain funding for their programs from competitive private and public sources.”² By making housing and neighborhood data more readily accessible and usable, the Furman Center expects NYCHANIS to allow CDCs and other housing organizations to spend less time on data collection and analysis and more time on program operations and strategic planning.

This report documents NYCHANIS's development and assesses its first nine months of operation. The evaluation is based on analysis of web-server data, an on-line survey of users, interviews with key individuals involved in the program's development and implementation, and two focus groups with users from city government and nonprofit housing and community organizations. The server data, supplied by Bowne Management Systems, the administrator of the NYCHANIS web site, includes information on all users and sessions from January through September 2004. The-line

² Furman Center for Real Estate and Urban Policy, Technology Opportunity Program Grant Proposal. March 2002, p. 2.

survey was carried out in October, 2004, shortly after the close of the evaluation period.

All registered users were sent e-mails inviting them to participate in the survey. A total of 208 people completed the survey³. The two focus groups were held September 28th and October 1. The HPD focus group included seven staff members. The focus group for staff from *nonprofit housing and community development organizations* was convened by the Association for Neighborhood Housing Development, a membership organization for community development groups in New York City. Seven individuals attended this session.

The report is organized in seven sections. The first part describes NYCHANIS's development and the chief challenges involved therein. The second part examines patterns and trends in the use of NYCHANIS during the nine-month evaluation period. The third part provides an overview of NYCHANIS's users, including their demographic characteristics, their education, computer skills, and the capacity in which they use the program. The subsequent section examines the types of data most often accessed through NYCHANIS and the importance of this data for the users' work. It also reviews the geographic scales most often used and the formats in which NYCHANIS data are presented. In addition, the section summarizes suggestions made by the survey respondents for additional data indicators and for improvements in how the data are made available. The fifth section focuses on user satisfaction. Drawing from the survey and focus groups, it examines several measures of satisfaction. Section six assesses NYCHANIS's efforts to provide training for the web site. Section seven offers some concluding observations.

³ To see the survey, go to <http://fs11.formsite.com/NYCHANIS/SURVEY/index.html>

PROJECT IMPLEMENTATION

The Furman Center was awarded a TOP grant in September 2002 to develop NYCHANIS. The original expectation was that the web site would be completed by May 2003. However, this deadline was soon pushed back to September 2003, and ultimately NYCHANIS did not become available to the public until January 2004.

There are several reasons why NYCHANIS's development took longer than initially expected. First, problems obtaining data for the 2002 edition of the *State of New York City's Housing and Neighborhoods* delayed publication of the report, which in turn delayed the start of the NYCHANIS project. A second source of delay was that it took longer than expected to decide on a contractor to design and manage the web site. The Furman Center ultimately selected Bowne Management Systems, an information technology and engineering firm based in Long Island. Bowne began work on NYCHANIS in March 2003. After consulting with Bowne, the Furman Center soon decided that the original milestones for completing a web site of NYCHANIS's scope and complexity were not realistic, and pushed back the completion date from May to September 2003.

Bowne completed the initial design of the web site by June 2003. During this phase the firm prepared a "requirements document" which laid out the functions NYCHANIS was to perform. It then translated these requirements into a design using Unified Modeling Language, a notation system for converting program requirements into text and diagrams that can be read by the client (Furman Center) and then converted into computer code. From June through August, Bowne worked to turn the design into a functioning web site. Collaborating with the Furman Center and HPD, Bowne compiled

all the housing and neighborhoods data, developed the site's mapping functions, and established the site's use interface. By the end of August Bowne had produced a prototype of the NYCHANIS web site. The next three months were spent refining this web site. The Furman Center saw aspects of the prototype that needed improvement, to make NYCHANIS smoother and more intuitive to use. During the Fall of 2003, the Furman Center presented the prototype web site to members of the project's advisory board, seeking suggestions for its improvement. The Furman Center used this feedback, along with its staff's own impressions and ideas to suggest additional changes for Bowne to make in the content and design of NYCHANIS. Bowne and the Furman Center went through several iterations in refining the web site. Each time Bowne completed a set of revisions, the Furman Center would review the website and make additional suggestions for Bowne to implement. While these revisions delayed the public release of NYCHANIS, the Furman Center felt that the delay was worthwhile. According to Michael Schill, the director of the Furman Center until August 2004, it was important to work out the kinks in the system. "We didn't want to create a system that failed right away, so that people would not to go back."

NYCHANIS was given a "soft public landing" the first week in January. Although open to the public, the Furman Center did not want to publicize its availability until it was confident that there were no additional problems to address. "We didn't want to get bombarded with hits and then find out that something was wrong [with the system]" explained Schill. He believes the strategy worked in that there were not any computer crashes or other major problems during the month of January, or later when the

system saw much heavier use. To Schill, it was more important to have the system "right" than to have it completed "fast."

The soft opening drew to a close on February 6, 2004, when the *New York Times* published an article on NYCHANIS (see box). The site registered more than 3,000 sessions on that day alone, and usage has remained well above January levels ever since. In addition to the *New York Times* article, The Furman Center publicized NYCHANIS by highlighting it in the cover letter for the 2003 edition of the *State of New York City's Housing and Neighborhoods*, which was mailed to 1,000 individuals and organizations in January 2004. The Furman Center also publicized NYCHANIS through a press release and through presentations made at various meetings and conferences.

A Portrait of a Neighborhood Is Now Just a Click Away. Dennis Hevesi, *New York Times*. (Late Edition (East Coast)). New York, N.Y.: Feb 6, 2004. pg. B.8

Copyright New York Times Company Feb 6, 2004

Want to know how many vacant lots are in your neighborhood? How steep the rent increases have been? The rate of mortgage foreclosures? How many people live in "linguistic isolation" (bureaucratese for "non-English speakers")?

Under a new federally financed program, anyone wanting to tap into a wealth of housing (and other) information about any of New York City's neighborhoods -- would-be home buyers, renters, policy makers or community advocates -- can log on at no charge to a simple-to-use Web site at www.nychanis.com.

NYCHANIS stands for New York City Housing and Neighborhoods Information System, and the Web site is the design child of Michael H. Schill, director of the Furman Center for Real Estate and Urban Policy at New York University's School of Law, and Denise Previti, a former researcher at the center. It was financed by a \$457,000 grant from the United States Department of Commerce, with matching contributions from local foundations and banks.

"The project is part of a national movement toward democratizing data," Professor Schill said. "The idea is that government agencies and private organizations collect huge amounts of information that average people have no way of accessing. With NYCHANIS, anyone can have this data at their fingertips."

Someone wondering whether to buy a home in the Flushing or Whitestone sections of Queens, for example, could readily discover that the inflation-adjusted median value for single-family homes in the community rose to \$300,000 in 2002, from \$215,000 in 1999. From 1999 to 2002, the percentage of individually owned housing units increased to 49.6, from 47.2. Approximately 60 percent of the area's housing was built before 1960, with 22.5 percent built before 1939, the data show.

A Web searcher could draw a social portrait of the neighborhood. In Flushing-Whitestone, for example, the percentage of students in public elementary and middle schools who performed at grade level or above in English rose to 60.8 in 2003, from 52.2 in 1999. Violent crimes dropped to 3.54 per 1,000 residents in 2001, from 7.84 incidents in 1990.

Someone weighing whether to rent an apartment on the Upper West Side could find that more than 76.8 percent of the rental units in the neighborhood are rent-regulated in one form or another, leaving 23.2 percent at market rate. From 1999 to 2002, the median rent for all apartments -- including regulated units and those in public housing -- rose by 10.3 percent to \$950. If someone wants to buy an apartment on the Upper West Side, they could find that the inflation-adjusted median value rose to \$600,000 in 2002, from \$322,000 in 1999.

The Web site offers 65 categories of information about each neighborhood.

"Not only can people download data tables," Professor Schill said, "they can create custom-made maps, graphs, pie charts.

"If a community group is concerned that subprime lenders are targeting minority communities, it can create a map showing where subprime loans are most prevalent, then overlay where most minority families live."

The statistics come from a host of sources: New York City's Departments of Planning, Finance, Housing Preservation and Development and the police and, on the federal level, the Census Bureau and the Departments of Commerce and Education, as well as data collected in accordance with the National Home Mortgage Disclosure Act.

Someone logging on can enter an address and obtain information based on the local census tract, subborough area, community district, school district or police precinct. "It blends the housing data with digital maps of the city," said Richard Annitto, vice president of Bowne Management Systems, the company that designed the site. "It's the most complete source for housing statistics in the city."

The Department of Housing Preservation and Development has already used it for policy purposes. "Because of our interest in homelessness, we mapped where the overcrowded apartments are," said Harold Shultz, the department's special counsel.

Since NYCHANIS became available to the public, the Furman Center and Bowne have made few changes to the web site, most of which concern the site's mapping functions. As necessary, updated data have also been added to the web site. Bowne's role in the project since January 2004 has consisted mostly of monitoring the web site's performance, ensuring that the software remains operational on a continuous basis. During the nine-month evaluation period the system failed twice, both times because of electronic failures at Bowne's offices. The Furman Center's role shifted mostly to outreach and training. As will be discussed later in this report, the Furman Center

organized three training sessions during the summer of 2003 and prepared a training manual, which it posted on the NYCHANIS web site as a PDF file.

Key Stages and Milestones in NYCHANIS's Development

September 2002—Furman Center awarded TOP grant to develop NYCHANIS

October to December 2002—Focus on completing annual report on State of New York City's Housing and Neighborhoods (part of the TOP grant).

January to March 2003—Sought and evaluated bids from vendors to provide computer services to develop NYCHANIS web site

March 2003—Contracted with Bowne Management Systems, Inc. to develop the web site.

March to June 2003—Developed web site design. Prepared "Requirements Document" specifying functions to include in NYCHANIS and translated these requirement into a design using Unified Modeling Language (UML).

July through August 2003—Developed website prototype.

September though December 2003—Revised and refined web site, based on feedback from Furman Center. Held orientation sessions with members of advisory board.

January 2004—"Soft" public release of NYCHANIS. Password protection removed.

February 6, 2004—New York Times publishes article on NYCHANIS. Usage increases immediately.

February to September 2004—Custom changes to website. Monitor web site functionality, ensure that software is running on a continual basis. Training manual produced. Three training sessions held in summer. Virtual Town Hall held on Sept 22.

One aspect of NYCHANIS fell short of expectations. In addition to the interactive data base with capacities for producing tables, maps, and graphs, NYCHANIS also offers an "Information Exchange." This feature consists of a series of bulletin boards and an Electronic Town Hall. The bulletin boards allow users to ask the New York City

Department of Housing Preservation and Development questions on a range of topics pertaining to housing and community development, though one bulletin board focuses specifically on NYCHANIS. The Electronic Town Hall provides a real-time conversation with the Commissioner of HPD. Originally, NYCHANIS planned to hold six Town Hall meetings with the Commissioner during the evaluation period. However, due in part to a changeover in Commissioners in March 2004, only one town hall session took place, and that occurred near the end of the evaluation period on September 22. Another factor that slowed the implementation of the Town Halls was the unanticipated need to modify the software NYCHANIS had acquired for this purpose. The software was originally designed for unmoderated discussions, with participants sending questions directly to the Commissioner. The Furman Center, however, wanted participants to forward their questions to a moderator who would sort them into a logical sequence and weed out inappropriate messages before sending them to the Commissioner for his response.

The bulletin boards set up for the Information Exchange saw very little, if any, use during the Evaluation period. The only bulletin board to have more than one entry pertained to NYCHANIS itself—with 14 items. Those that focused on housing and community development issues remained inactive. The user survey suggests that few people knew about NYCHANIS's Information Exchange. Fewer than one-fifth of the respondents said they were aware of the Information Exchange, and an even smaller percentage had known about the Town Hall meeting with HPD's Commissioner. The same was true for the participants in the two focus groups. Altogether, 18 people registered to participate in the session, along with an unknown number of "guests" who

could read the questions and answers but were not permitted to ask any questions themselves.

Several factors help explain the bulletin boards' inactivity. Most importantly, the bulletin boards were never promoted independently of NYCHANIS, and most of the attention given to NYCHANIS focused on its data base and the ability to display this information in a wide array of formats. For example, the *New York Times* article on NYCHANIS focused exclusively on the web site's ability to access data on housing and other neighborhood characteristics. The design of the web site might also have discouraged use of the Information Exchange, especially since users must create a separate log-on account to access this feature of NYCHANIS. More likely, however, potential users were disinclined to be the first person to post a listing on a bulletin board. The web site indicates how many items have been posted on each bulletin board. With almost all of them showing no postings, visitors may be reluctant to "break the ice" and submit the first question.

Michael Schill says he did not expect the bulletin boards to see much use until the Town Halls had started up. He thought that the opportunity to ask questions to HPD's Commissioner would attract people to the Information Exchange, where they would encounter the bulletin boards. With only one Town Hall session, and that happening towards the end of the evaluation period, there was scant opportunity for people to discover the bulletin boards. He also points out that there are other internet-based bulletin boards on housing and community development issues in New York City, which may limit the perceived demand for the Information Exchange. Whether the bulletin boards become active in the future will largely depend on HPD—on whether it will continue to

sponsor Town Hall meetings with the Commissioner, on its timely responses to queries posted on the bulletin boards, and its efforts to promote the Town Hall meetings and the bulletin boards.

USAGE PATTERNS AND TRENDS

From January 2004 through the end of September, a total of 10,115 people “visited” NYCHANIS and executed a total of 15,690 “sessions.” However, these figures, recorded by NYCHANIS’s computer server, exaggerate the extent to which people actually used the system. In order to go beyond NYCHANIS’s home page and download data, users are required to register by providing their names, zip codes, e-mail addresses, and other information. As shown in Table 1, a total of 5,068 people registered for NYCHANIS, 51 percent of the visitors that clicked onto the NYCHANIS home page.

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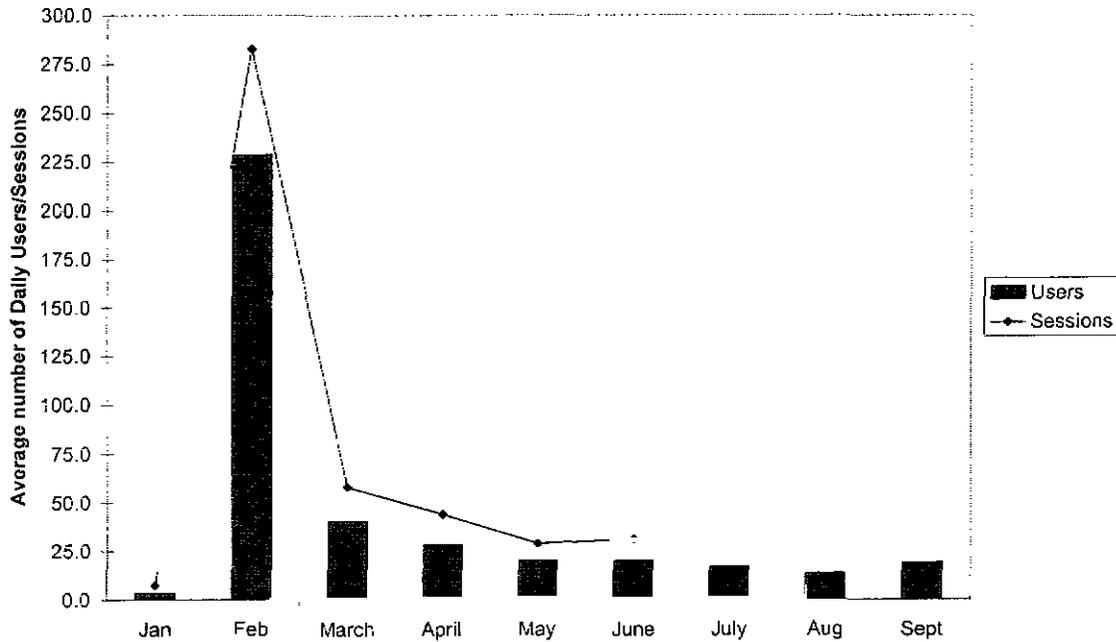
Usage Trends

Although NYCHANIS was available for use by January 1, 2004, it did not attract many visitors until February 6th, when the *New York Times* published the above-mentioned article. Usage escalated immediately thereafter. From February 1 through 5th, an average of six people per day used the NYCHANIS site. On the day of publication, 2,943 people logged onto NYCHANIS and initiated 3,326 sessions. February 6 through February 13 saw far more use of NYCHANIS than any other week in the nine-month study period, with a daily average of 829 users and 934 sessions. Indeed, Feb. 6th alone accounted for 21 percent of all the sessions executed on NYCHANIS, and the week of Feb. 6 to 13 accounted for 42 percent. Usage fell off during the final two weeks of February to a daily average of 80 users and 93 sessions.

Usage never returned to the peak levels immediately following the publication of the New York Times article. On the other hand, it remained well above the volume preceding February 6th. Figure 1 shows average daily number of sessions and users per month during the nine month study period. The graph shows that from February through August the average number of users dropped from 228 per day in February to 40 in March and 28 in April. The average number of visitors subsequently hovered around 20 a day, except in August, when it fell to 13. Similarly, the volume of average daily sessions

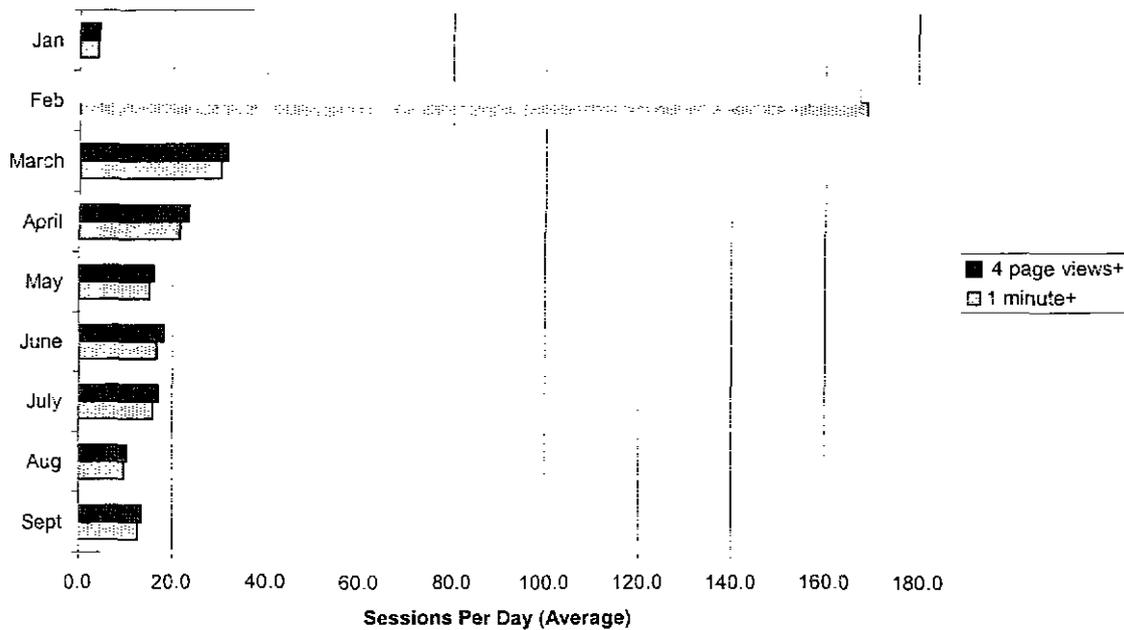
fell steadily from February through May, then stabilized in the 28 to 30 range for the rest of the period, except for August when it fell to a low of 20.

Figure 1
Average Number of Daily Users and Sessions, Jan. to Sept, 2004



As noted above, these figures on the number of users and sessions, derived from data recorded by NYCHANIS's computer server, overstate the number of actual users and sessions. More realistic measures of usage trends are the average daily number of sessions lasting for at least one minute or extending beyond three page views, as shown in Figure 2. The graph shows that the two measures track very closely together. By either indicator, usage declined from February through May, and then stabilized for the subsequent three months at about 16 to 18 sessions a day. Usage dropped to its lowest level in August but recovered somewhat in September.

Figure 2
Average Number of Daily Sessions Extending Beyond One Minute
or Three Page Views



Registration Trends

Table 2 presents the number of new users who registered for NYCHANIS each month. Nearly three-quarters of all registered users first logged on to NYCHANIS in February. March saw 414 new registrants, eight percent of the total, followed by 231 in April (five percent). The number of new users continued to decrease every month through August. September, however, saw an upturn in new registrants, posting 131 new users, the most since May.

The vast majority of the registered users, more than 80 percent, only used the web site the day they registered and had not returned to it by the close of the evaluation period on September 31, 2004. Table 3 shows the intervals between the date of registration and the date of last use. At one extreme, some 7.5 percent of the registered users had last logged on to NYCHANIS at least 90 days after their initial registration (a portion of these

users, however, are employees of Bowne Management Systems, the Furman Center, and HPD, who worked on the development of the web site).

Table 2
Registered NYCHANIS Users, by Month of Registration

Month of Registration	Total Users	Percent	Cumulative Percentage
Before Dec 2003	39	0.8	0.8
Dec-03	30	0.6	1.4
Jan-04	29	0.6	1.9
Feb-04	3,727	73.5	75.5
Mar-04	414	8.2	83.6
Apr-04	231	4.6	88.2
May-04	143	2.8	91.0
Jun-04	130	2.6	93.6
Jul-04	112	2.2	95.8
Aug-04	82	1.6	97.4
Sep-04	131	2.6	100.0
Total	5,068		

Source: Bowne Management Systems, Inc.

About four percent of the registered users had most recently used NYCHANIS 30 to 90 days after their registration, and three percent did so eight to 30 days afterwards. Five percent of the users last used the site one to seven days after initial registration.

Table 3
Interval Between Dates of First and Last Use

Interval	Number of Users	Percent	Cumulative Percentage
90 +days	380	7.5	7.5
60- 89 days	76	1.5	9.0
30 -59 days	141	2.8	11.8
15-29 days	73	1.4	13.2
8-14 days	79	1.6	14.8
2-7 days	162	3.2	18.0
1 day	92	1.8	19.8
Same day	4,065	80.2	100.0
Total	5,068	100	

Source: Bowne Management Systems, Inc.

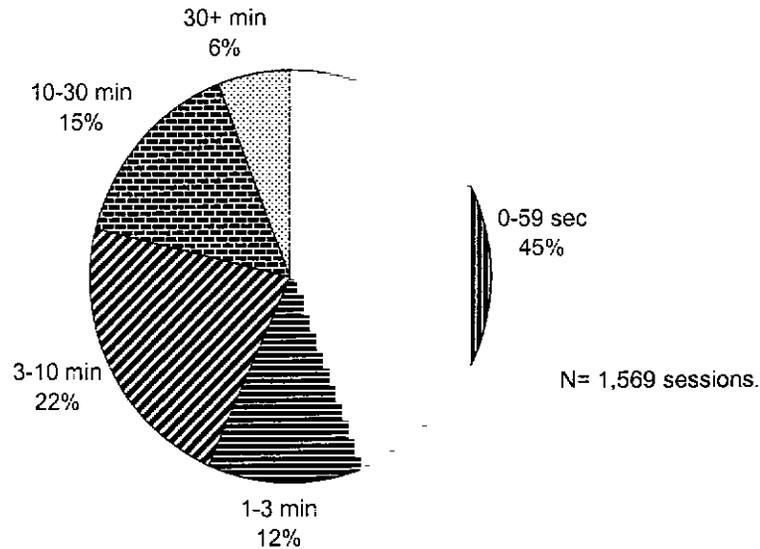
Session Characteristics

This section offers more detail on the character of NYCHANIS sessions executed during the nine-month evaluation period. It looks at the length of individual sessions, measured by duration and page views, and the frequency of use, measured by the number of sessions initiated by individual users and the intervals between these sessions.

Length of Session

As noted above, a large proportion of all NYCHANIS sessions were quite short. Of the nearly 16,000 sessions recorded during the evaluation period, 45 percent lasted for one minute or less—the overwhelming majority of which did not extend for more than 10 seconds. Most likely, these sessions involved no more than the NYCHANIS home page. That is, after arriving at the home page visitors declined to register and go further. At the other extreme, six percent of the sessions extended for 30 minutes or more. Sessions lasting three to ten minutes were the second-largest category, representing 22 percent of the total, followed by sessions 10 to 30 minutes long (15 percent), and one to three minutes (15 percent) (see Figure 3).

Figure 3
Duration of NYCHANIS Sessions



On a monthly basis, Table 4 shows that very brief sessions (lasting up to 30 seconds) range from 30 to 51 percent of total sessions, averaging 42 percent. It is interesting to note that February, the period of greatest activity, saw proportionately fewer very brief sessions than any subsequent month.

The percentage of sessions lasting 30 minutes or more varies widely from month to month. While the monthly average is seven percent, the actual proportion ranges from four percent (in February and September) to 16 percent (in January). There is slightly less variation in the percentage of sessions 10 to 30 minutes and three to 10 minutes. On average, 21 percent of the sessions each month lasted for more than 10 minutes. However, these longer sessions accounted for just 15 percent of the total sessions in September, the final month of the study period.

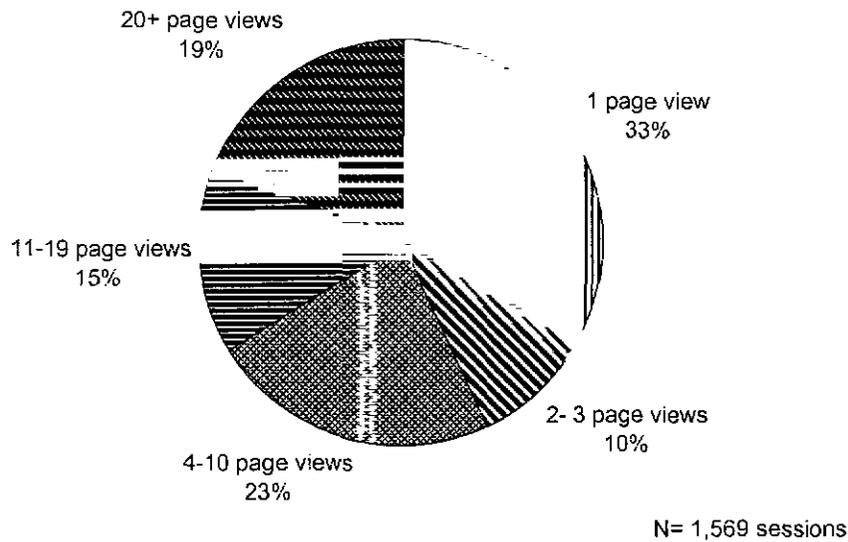
Table 4
NYCHANIS Sessions, by Session Length (Percent Distribution)

Month	Session Length							Total Sessions
	0-10 sec	10-30 sec	31-60 sec	1-3 min	3-10 min	10-30 min	30+ min	
Jan	24.2	6.3	4.7	13.7	13.2	22.1	15.8	190
Feb	31.1	4.3	4.8	13.1	26.1	16.4	4.3	8,195
March	38.6	4.8	4.6	11.0	22.0	13.5	5.4	1,802
April	42.6	4.5	4.0	9.9	17.7	12.5	8.8	1,323
May	38.7	4.1	6.0	11.9	18.3	15.2	5.7	893
June	35.5	5.4	6.2	11.3	17.3	14.7	9.7	941
July	33.0	5.0	6.2	12.0	15.8	15.4	12.5	881
Aug	41.4	4.8	4.9	12.0	17.1	14.3	5.4	608
Sept	44.5	6.5	4.7	12.5	16.9	10.6	4.3	857
Total	34.8	4.7	4.9	12.3	22.3	15.2	5.8	15,690
Feb-Sept								
Mean	38.2	4.9	5.2	11.7	18.9	14.1	7.0	1,938
Median	38.7	4.8	4.8	11.9	17.5	14.5	5.6	917.0

Source: Bowne Management Systems, Inc.

In addition to temporal duration, another way of looking at the length of individual sessions is through the number of page views—i.e., the number of pages called up during a single session. Figure 4 shows the distribution of NYCHANIS sessions based on the number of page views. The results run parallel to those of session length. One-third of all sessions involved only one page view—presumably the NYCHANIS home page—almost exactly matching the percentage of sessions that lasted no more than 10 seconds. At the other extreme, 19 percent of all sessions ran through 20 or more page views, compared to the 21 percent of the sessions that extended for more than 10 minutes. Table 5 also shows that the distribution of sessions is fairly evenly divided between those involving four to 10, 11 to 19, and 20 or more page views. Just as September saw proportionately fewer sessions lasting 10 minutes or more, the month also had fewer sessions involving 11 or more page views.

Figure 4
NYCHANIS Sessions by Number of Page Views



Frequency of Use

Nearly two thirds (64.5 percent) of the sessions that took place on NYCHANIS during the evaluation period involved individuals who used the system only once. The remaining 33.5 percent of the sessions involved “repeat users” who used NYCHANIS two or more times. However, when sessions lasting less than 10 seconds are excluded from analysis (almost all of which did not go beyond the home page and involved individuals who did not register to use the system), the percentage of sessions involving one-time-only users drops to 45.5 percent and the percentage involving repeat users rises to 54.5 percent. This adjustment assumes, however, that all 10-second sessions were initiated by one-time users.

Table 5
Number of Page Views Per Session (Percent Distribution)

Number of Page Views	1	2 to 3	4 to 10	11 to 19	20 and more	Total
Jan	21	9	19	17	33	190
Feb	30	11	26	16	17	8,195
March	37	9	21	15	19	1,802
April	40	8	17	12	24	1,323
May	36	10	19	15	20	893
June	33	9	22	16	21	941
July	31	9	19	13	28	881
Aug	38	9	19	16	18	608
Sept	40	13	22	12	14	857
Total	33	10	23	15	19	15,690
Feb- Sept						
Mean	36	10	21	14	20	
Median	36	9	20	15	19	

Source: Bowne Management Systems, Inc.

Table 6 displays the number of sessions per user. People who completed two sessions during the nine-month evaluation period account for 15 percent of total sessions (23 percent, excluding sessions 10 seconds or shorter). Another 14 percent of total sessions (21 percent, excluding sessions less than 10 seconds long) were generated by people who each initiated three to eight sessions), and the remaining seven percent (10 percent) were connected to people who executed a minimum of nine sessions.

NYCHANIS's repeat users usually return to the system shortly after their previous visit. Of the 5,575 sessions involving individuals who used NYCHANIS at least twice, 43 percent occurred on the same day as the previous visit (see Table 7). Twelve percent took place the day after the previous visit, and 17 percent took place two to seven days later. At the other end of the spectrum, six percent of the sessions occurred 31 to 60

days after the previous one, and seven percent occurred more than 60 days later.

However, in each month from May through September, 12 to 20 percent of the repeat visitors returned to the site after an interval of 61 or more days.

Table 6
Total NYCHANIS Sessions by Number of Sessions per User

Number of Sessions Completed by Users	Total Sessions		Sessions Longer than 10 Seconds	
	Number	Percent	Number	Percent
1	10,113	64	4,654	45
2	2,348	15	2,348	23
3	958	6	958	9
4 to 8	1,213	8	1,213	12
9 to 14	411	3	411	4
15 and more	647	4	647	6
Total	15,690	100	10,231	100

— Bowne Management Systems, Inc.

Table 7
Sessions Initiated by Repeat Users: Number of Days Since Previous Session

	Number of Days Since Previous Session (Percent Distribution)							Total
	0 (same day)	1	2-7	8-14	15-30	31-60	61+	
Jan	41.5	18.7	23.6	7.3	4.1	4.9	0.0	123
Feb	55.0	13.1	20.2	7.5	3.7	0.4	0.1	1,830
March	34.9	10.7	16.0	6.8	16.8	13.8	1.1	814
April	40.7	13.6	13.6	5.6	7.5	10.5	8.6	664
May	32.5	10.3	13.1	7.2	9.0	7.0	21.0	458
June	40.2	9.3	16.2	5.7	5.5	5.5	17.8	495
July	38.5	11.4	18.0	6.6	8.4	4.8	12.2	499
Aug	30.5	13.2	17.6	8.8	8.8	6.8	14.2	295
Sept	40.1	11.6	15.1	6.5	7.1	5.3	14.4	397
Total	43.0	12.1	17.2	6.9	7.6	5.7	7.4	5,575
Feb-Sept								
Mean	39.3	12.4	17.0	6.9	7.9	6.5	9.9	
Median	40.1	11.6	16.2	6.8	7.5	5.5	12.2	

Source: Bowne Management Systems, Inc.

USER PROFILE

This section portrays NYCHANIS's users from several perspectives. Drawing chiefly from the user survey, it summarizes their demographic characteristics, computer skills, and the capacity in which they use NYCHANIS (e.g., as a student, an employee of a nonprofit housing organization, a private individual). The section also looks at how the users found out about NYCHANIS, the kinds of computer operating systems and Internet connections they have, their experience with other data-oriented web sites, and how often they use NYCHANIS.

Gender, Age, and Education

Table 8 profiles the demographic characteristics of the survey respondents. It shows that men comprise about three-fifths of the respondents and women two-fifths. It also shows a fairly even distribution of respondents by age group. Individuals in their 20s, 30s, and 50s each constituted about one-quarter of the respondents. Users in their 40's made up about one-sixth of the respondents, and users 60 and older comprised one-tenth.

A majority of respondents have post-graduate educations. More than 40 percent have Master's degrees, 10 percent have Ph.Ds and five percent have law degrees. Slightly more than one-quarter of the respondents have a BA.

Table 8
Sex, Age, and Education of NYCHANIS Users

Sex	
Percent Female	41.9
Percent Male	58.1
Age (Percent Distribution)	
Under 20	2.4
20 to 29	24.6
30 to 39	21.8
40 to 49	17.5
50 to 59	23.2
60 to 69	9.5
70 or older	0.9
Educational Attainment (Percent Distribution)	
Masters Degree	42.2
Bachelors Degree	28.0
Doctorate (PhD)	10.0
Some College (<i>no degree</i>)	10.0
Law Degree (JD)	4.7
Associates Degree	1.4
Other	3.8

Source: NYCHANIS user survey.

Computer skills

The survey asked respondents to rate their overall computer skills. Most considered themselves to be at least at the intermediate level; few saw themselves as novices. On a scale of one to ten, the mean (and median) rating was seven. Fewer than five percent of the respondents considered their computer skills to be less than intermediate. Two-thirds rated their skills better than intermediate (see Table 9).

Table 9
Computer Skills of NYCHANIS User Survey
Respondents

Skill Level	Percent	Cumulative Percentage
1--Beginner	1.0	1.0
2	0.0	1.0
3	0.5	1.4
4	3.4	4.8
5--Intermediate	21.6	26.4
6	7.2	33.7
7	26.0	59.6
8	23.6	83.2
9	11.5	94.7
10--Expert	5.3	100.0
N	208	

Source: NYCHANIS user survey.

User Affiliation

In order to use NYCHANIS, all individuals were first required to create an account. To do so, they had to provide their names, e-mail address, and zip code, create a password, and indicate their user category. The latter consists of the following 11 options:

- Academic
- Advocacy group
- City-wide Nonprofit housing provider
- Civic group
- Financial Institution
- For-profit housing provider
- Foundation
- Government
- Individual
- Nonprofit community-based housing provider
- Other

The responses to this option indicate the kinds of organizations users come from, and the extent to which people use NYCHANIS as private individuals and not as part of their employment, education, or volunteer activity. About 70 percent of the registered users designated “Individual” or “Other” as their user type. The next largest category consists of Academics, which accounted for 12 percent of register users. Government represented six percent of the users. Individuals from nonprofit neighborhood-based and city-wide housing groups made up four percent of total users (200 in total) and for-profit housing groups accounted for nearly three percent of all users (134).

The survey included a larger number of user categories than the registration form. In addition to the original categories, respondents could identify themselves as students, consultants, and from the media (newspapers, TV, Radio), or religious organizations. Moreover, the Government category was divided into city, state, and federal divisions.

As a result of these additional options, a smaller percentage of respondents identified themselves as “Individuals” or from “Other” types of organizations than was the case of the user registration form. Table 10 shows that “Individuals” constituted 22 percent of the survey respondents, followed by academics, city government, and students, each accounting for 12 percent of the respondents. Nonprofit and for-profit housing organizations together accounted for another 12 percent of the respondents.

The total universe of registered users and survey respondents can be compared when the new user categories of the survey are folded into the combined category of “Other” and “Individuals” and when the government categories are consolidated together.

Table 10
NYCHANIS User Affiliations: Registered Users and Survey Respondents

	Registered Users	Survey Respondents	Difference
Academic	11.8	11.8	0.0
Advocacy Group	1.6	3.8	-2.2
City-Wide Nonprofit Housing Provider	0.8	3.3	-2.5
Civic Group	0.9	1.4	-0.6
Financial Institution	1.8	3.8	-2.0
For Profit Housing Provider	2.6	3.3	-0.7
Foundation	0.3	0.5	-0.2
Government	6.3	13.7	-7.3
City Government	NA	11.7	NA
Other Government	NA	2.8	NA
Individual and Other	70.8	52.8	18.0
Individual	62.4	22.5	39.9
Other	8.4	8.8	-0.4
Student	NA	12.2	NA
Consultant	NA	7.3	NA
Media	NA	1.4	NA
Religious Institution	NA	0.4	NA
Nonprofit community-based housing provider	3.1	5.7	-2.6
N	5,138	212	

Table 10 shows that distribution of user types among survey respondents is quite similar to that of registered users. The main difference is that proportion of “Individual” and “Other” users is 18 percentage points higher among registered users and the percentage of government employees in the user survey, at 14 percent, is more than twice their representation among registered users. The differences in the other categories are relatively small.

The Furman Center originally conceived of NYCHANIS as a resource for New York’s “affordable housing community,” including nonprofit and for-profit housing developers, as well as community organizations, intermediaries, and “community-

minded” financial institutions.”⁴ In its proposal for the TOP grant, the Furman Center wrote that “[f]rom over 100 different housing organizations and CDCs in the city, we anticipate that most of them, 90% or more will log on to the NYCHANIS site. We expect that at least 50 organizations will use the NYCHANIS web site for data access and mapping in the first year and that the number will increase to 75 organizations by the end of the second year.” The web-server data do not indicate the number of housing and community development organizations that have used NYCHANIS, making it impossible to determine how close NYCHANIS came to its goal of serving 50 organizations during its first year of operation. The user registration data summarized in Table 10 shows that nonprofit citywide and community-based housing providers together account for 3.9 percent of total users. In absolute terms, this amounts to 200 people. If these individuals are widely dispersed among many organizations, then the Furman Center would have met its goal. But this would not be the case if these users are concentrated among a smaller number of organizations.

How Respondents Learned About NYCHANIS

Of the 183 survey respondents who remembered how they first learned of NYCHANIS, the single most common source was a newspaper article (most likely the *New York Times* piece published on February 6th). While about 25 percent of the respondents indicated they first became aware of NYCHANIS through a newspaper article, slightly lower percentages (21 percent) came to NYCHANIS through a web search or through word of mouth. About 11 percent learned about NYCHANIS through

⁴ Furman Center for Real Estate and Urban Policy, Technology Opportunity Program Grant Proposal. March 2002, p. 2.

an e-mail announcement while nine percent did so through Internet list serves and through their employer (see Table 11).

Table 11
How Users Learned About NYCHANIS

Source	Percent of Total	Percent of Those Who Remember
Don't remember	11.2	
E-mail announcement	9.7	10.9
Employer	7.8	8.7
Internet list serve	7.8	8.7
Newsletter	1.9	2.2
Newspaper article	21.8	24.6
Other	2.9	3.3
Web search	18.4	20.8
Word of mouth	18.4	20.8
N	206	183

Source: NYCHANIS user survey

Data from NYCHANIS web server suggest that few users learned about the site from other web sites. More than 90 percent of the time users initiated sessions by directly typing NYCHANIS's URL address or by using a bookmark. Less than five percent of all sessions originated through Google, Yahoo, or other search engines. A still smaller percentage involved linkages from other web sites.

Time of First Use

About 80 percent of the respondents could recall when they first logged onto NYCHANIS. More than half of those who did remember first used NYCHANIS in the spring and summer of 2004. About 15 percent first came to NYCHANIS in the winter of

2004 and another 15 percent first used the web site in the Fall of 2003. The remaining ten percent first used the site in the early fall of 2004 (see Table 12).

The results suggest that the survey respondents are overrepresented by relatively recent users. Whereas nearly three-quarter of all NYCHANIS users registered in February, 2004, only 15 percent of the survey respondents who could recall when they first used the system said they did so in the winter. On the other had, while less than seven percent of all users registered during the summer of 2004, more than one-quarter of the survey respondents first used NYCHANIS during this period.

Table 12
Date of First Use

<u>Source</u>	Percent of Total	Percent of Those Who Remember
Don't Remember	20.8	NA
Fall 2003	11.7	14.7
Winter 2003/04	12.2	15.4
Spring 2004	25.9	32.7
Summer 2004	21.3	26.9
Fall 2004	8.1	10.3
<u>N</u>	197	156

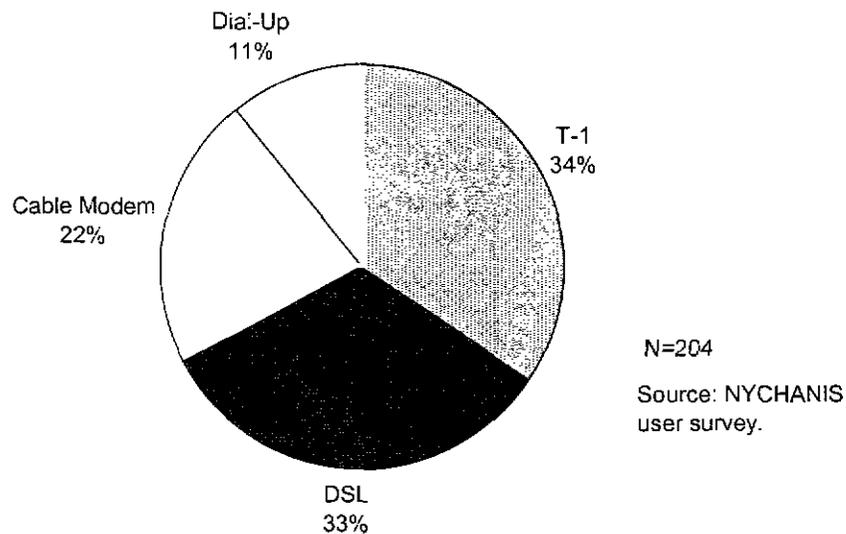
Source: NYCHANIS users survey

Computer System and Internet Connection

The overwhelming majority of NYCHANIS users, more than 92 percent, use computers equipped with a Windows operating system. Less than seven percent indicated that they relied on Macintosh or other operating systems. Nearly 90 percent of the respondents indicated that they use high-speed Internet connections when using NYCHANIS. About one-third each said they rely on T-1 lines and DSL connections.

Another 20 percent use cable modems. Just over 10 percent relied on dial-up Internet connections (see Figure 5).

Figure 5
Internet Connection Most Often Used for NYCHANIS



Experience with Other Data Web Sites

Ninety percent of the respondents use at least one other web site besides NYCHANIS to access data on New York City. The web sites most often mentioned include the U.S. Census, INFOSHARE, and the New York City Department of City Planning. Additional municipal government web sites mentioned at least once include those maintained by the City's Mayor's Office, its Human Resources Administration, its Economic Development Corporation, and its Departments of Housing Preservation and Development, Transportation, Buildings, Health and Mental Hygiene, Finance, and

Education. Other governmental web sites used by the respondents include those maintained by the Metropolitan Transportation Authority, the Federal Financial Institutions Examination Council, the U.S. Departments of Labor and of Housing and Urban Development, and the New York State Departments of Education and Housing and Community Renewal. Additional web sites include ACRIS, OASIS, destinationbrooklyn.org, Gotham Gazette, College of Staten Island Library, City Admin, Property Shark, NY Public Library, Municipal Arts Society, CityNet, IPS, domania, New York City Map Portal, Ebsco, CoStar, LISC, ESIC, National Association of Realtors, BIS, NYPIRG-CMAP, SPARCS, and UNHP Community Resource Guide.

Frequency of Use

The survey asked two questions about the frequency by which NYCHANIS was used. One question asked respondents to indicate how often they used NYCHANIS in the past 30 days, and the other asked how frequently they have used the site overall. Table 13 shows usage during the 30 days prior to the survey. Slightly more than half of the respondents, 54 percent, had not used NYCHANIS in the 30 days prior to completing the survey. One-third had used the web site once or twice during this period, and ten percent had used it three or four times. Only three percent indicated they had used NYCHANIS more than five times in the past 30 days.

When asked how often they used NYCHANIS overall, the single largest response was “quarterly”, accounting for 36 percent of the respondents. An additional 31 percent indicated they used the site once or twice a year. Monthly users accounted for 24 percent of the respondents, and weekly users about nine percent (see Table 14).

Table 13
Number of Times NYCHANIS Was Used in Past 30 Days

	Percent	Cumulative Percentage
None	53.8	53.8
Once or Twice	33.2	87.0
Three or Four	10.0	97.0
Five to 10	2.5	99.5
More than 10	0.5	100
N	199	

Source: NYCHANIS user survey.

Table 14
Overall Frequency of Use

	Percent	Cumulative Percentage
Once or Twice a Year	31.4	31.4
Quarterly	36.2	67.6
Monthly	23.7	91.3
Weekly	8.7	100
N	207	

Source: NYCHANIS user survey.

DATA USAGE

This section examines the kinds of data accessed most often through NYCHANIS, the geographic scale and presentation formats most frequently used, and the purposes for which people use NYCHANIS. In addition, the section summarizes suggestions made by the survey respondents for additional data indicators and for improvements in how the data are made available.

Data Indicators

NYCHANIS contains a total of 1,395 data items. All but 18 (1.3 percent) of these indicators were downloaded at least once during the nine-month evaluation period. Table 15 displays the frequency by which they were accessed. It shows that 37 variables, three percent of the total, were used 500 or more times, including 12 that were downloaded at least 750 times. Twelve percent of the data items were used 250 to 499 times, and 42 percent were used 100 to 249 times. Another third of the data items were accessed 50 to 99 times, and 10 percent were accessed one to 49 times.

Table 15
Frequency by Which Data Indicators Were Accessed

Number of Times Accessed	Number of Indicators	Percent	Cumulative Percentage
750+	12	0.86	0.86
500-749	25	1.79	2.65
250-499	162	11.62	14.28
100-249	588	42.18	56.46
50-99	450	32.28	88.74
1- 49	139	9.97	98.71
0	18	1.29	100.00

Source: Bowne Management Systems, Inc.

Table 16 lists the 36 data items used 500 or more times. The top five items are median housing values in 2000 (accessed 1,538 times), total population in 2000 (1,082 times), percent of people that are Black in 2000 (937 times), median monthly contract rent in 2000 (920 times), and percent of people that are White in 2000 (910 times). Of the 36 most-used data items, more than half concern population and demographics, one-quarter relate to the size of the housing stock, and one-tenth concern housing values.

Table 16
Data Indicators Accessed 500 or More Times

<u>Indicator Name</u>	<u>Indicator Category</u>	<u>Times Accessed</u>
Median Housing Values, 2002	housing stock	1538
Total population in 2000	population and demographics	1082
Percent of People that are Black in 2000	population and demographics	937
Median Monthly Contract Rent in 2002	housing values	920
Percent of People that are White in 2000	population and demographics	910
Total Number of Housing Units in 2002	housing stock	889
Percent change in total population from 1990-2000	population and demographics	865
Number of Public Housing Units in 2003	housing stock	802
Number of Serious Housing Violations per 1,000 Rental Units in 2002	housing quality	769
Number of Section 8 Voucher Units from the New York City Housing Authority and the Department of Housing Preservation and Development in 2002	housing stock	769
Median Housing Values, 1999, Adjusted for Inflation in 2002 dollars	housing values	768
Median Household Income in 2002	income	767
Median Monthly Gross Rent in 2002	housing values	730
Net change in total population from 1990-2000	population and demographics	725
Percent Change in Number of Housing Units from 1990 to 2000	housing stock	715
Change in Number of Housing Units from 1990 to 2000	housing stock	704
Total Number of Housing Units in 2000	housing stock	700
Percent of People that are Asian in 2000	population and demographics	700
Total Number of Housing Units in 1990	housing stock	630
Total population in 1990	population and demographics	629
Total Number of Housing Units in 2000	housing stock	700
Percent of People that are Asian in 2000	population and demographics	700
Total Number of Housing Units in 1990	housing stock	630
Total population in 1990	population and demographics	629
Number of People that are White in 2000	population and demographics	586

(continued)

Table 16 (Continued)
Data Indicators Accessed 500 or More Times

Indicator Name	Indicator Category	Times Accessed
Number of People that are Black in 2000	population and demographics	578
Percent of People that are of Other Races in 2000	population and demographics	571
Percent of People that are Black in 1990	population and demographics	570
Percent of People that are White in 1990	population and demographics	570
Median Monthly Contract Rent in 1999, Adjusted for Inflation	housing values	550
Number of Public Housing Units in 2002	housing stock	547
Percent of Households with Rent Greater than 50% of Income in 2002	housing affordability	543
Percent of People that are American Indian, Eskimo, or Aleut in 2000	population and demographics	531
Number of People that are Asian in 2000	population and demographics	528
Percent of People that are Native Hawaiian or other Pacific Islander in 2000	population and demographics	525
Percent of People that are Foreign Born in 2000	population and demographics	521
Number of People that are White in 1990	population and demographics	512
Number of People that are Black in 1990	population and demographics	501
Number of People that are of Other Races in 2000	population and demographics	500
Percent of Households that are Immigrant Households in 2002	population and demographics	500
Number of Households in 2002	population and demographics	500

Distribution by Indicator Category

	Number	Percent
housing affordability	1	3%
housing quality	1	3%
housing stock	9	24%
housing values	4	11%
Income	1	3%
<i>population and demographics</i>	21	57%

Source: Bowne Management Systems, Inc.

Table 17 shows the usage of NYCHANIS's data indicators within 12 broad categories. It shows total usage of all the indicators in each category, the percent of total usage accounted for by each category, and the average usage per indicator in each category. The latter measure controls for the fact that some categories contain more indicators than others. The most heavily used category is Population and Demographics. Variables in this category were accessed more than 44,000 times, or 350 times per variable. By itself, this category accounted for more than 20 percent of the data downloaded through NYCHANIS. The next most often used categories are Housing Stock and Housing Values. Combined with Population and Demographics, these three categories account for nearly half of the data accessed through NYCHANIS. Other Neighborhood Indicators and Mortgage Lending and Foreclosures round out the top five categories in terms of total usage. However, they stand much lower in terms of average usage per indicator.

Table 17
Indicator Usage by Category

<u>Category Name</u>	Number of Indicators in Category	Total Usage of Indicators Within Category	Percent of Total Usage	Average Usage Per Indicator in Category
Population and Demographics	126	44,038	20.7	350
Housing Values	126	30,791	14.5	244
Housing Stock	89	26,148	12.3	294
Other Neighborhood Indicators	334	23,577	11.1	71
Mortgage Lending and Foreclosures	244	23,404	11.0	96
Housing Quality and Crowding	112	16,489	7.8	147
Education	116	13,841	6.5	119
Income and Public Assistance	70	11,125	5.2	159
Property Tax Delinquencies	96	8,870	4.2	92
Housing Affordability	34	6,688	3.1	197
Housing Creation	29	4,326	2.0	149
Land Use	18	3,041	1.4	169
Total	1,394	212,338	100.0	152

Source: Bowne Management Systems, Inc.

The survey asked NYCHANIS users to indicate the types of data they used most often and to rate the importance of various types of data for their work. The results correspond fairly closely with the indicator usage data presented above, especially with regard to average usage per indicator in category. The category most often considered essential is Population and Demographics, cited by 56 percent of the survey respondents. Housing Affordability, Housing Stock, and Income and Public Assistance are rated as essential by 41 to 44 percent of the respondents. The next cluster of categories, deemed essential by 33 to 37 percent of the respondents, includes Land Use, Housing Creation, Housing Values, Housing Quality and Crowding, and Other Neighborhood Indicators. The data categories least often rated as essential are Education (29 percent), Mortgage Lending and Foreclosures (25 percent), and Property Tax Delinquencies (19 percent).

The data categories most often deemed not important for the respondents' work are Property Tax Delinquencies (not important to 47 percent of the respondents), and Mortgage Lending and Foreclosures (41 percent), followed by Housing Creation (28 percent), Housing Values (28 percent), and Education (27 percent). The categories least often rated as not important are Population and Demographics (11 percent) and Other Neighborhood Indicators (17 percent) (See Table 18).

Table 18
Importance of NYCHANIS Data Categories to Users' Work (Percent Distribution)

Data Category	Essential	Fairly Important	Not Important
Population and Demographics	55.6	33.7	10.7
Housing Affordability	44.3	32.4	23.2
Housing Stock	43.5	33.2	23.4
Income and Public Assistance	40.7	34.6	24.7
Land Use	36.9	41.2	21.9
Housing Creation	34.9	37.1	28.0
Housing Values	34.9	37.1	28.0
Housing Quality and Crowding	34.4	41.5	24.0
Other Neighborhood Indicators	32.3	50.5	17.2
Education	29.8	43.1	27.1
Mortgage Lending and Foreclosure	24.9	34.1	41.1
Property Tax Delinquencies	19.7	33.3	47.0

Source: NYCHANIS user survey.

Data Recommendations

The survey asked respondents to recommend data they would like NYCHANIS to provide in the future. Respondents suggested additional types of data and additional ways of presenting the data. Some of their suggestions would augment NYCHANIS's existing data categories while others would introduce entirely new categories.

In the area of *housing*, respondents offered the following suggestions:

- Assisted housing sites
- Average rents by type of building (e.g., high-rise apartments, townhouse apartments, tenement apartments)
- Homelessness
- Vacancy Rates
- Mortgage interest rates
- Lender data
- Real estate values
- Debt to value ratios
- Building and renovation permits
- Sales comparables, absorption, occupancy

- Market Rents by borough and sub-borough area
- Property owners
- *Maps showing building footprints*

Respondents also suggested that NYCHANIS include more data in the Population and Demographics category on immigration. In education, one respondent requested data on total cost per student.

Other types of data suggested include the following:

- Employment and place of work at the block and block grant level
- Location of community-based organizations
- Public Investment
- Senior citizens receiving city-provided meals
- Telecommunications resources
- Youth services
- Crime
- Voter registration and election results
- Transportation
- Publicly owned land
- Public facilities (from the Department of City Planning's data base)
- Health statistics (rates of HIV, cancer, TB, etc.)
- Environmental characteristics (measures of pollution, traffic, etc. and facilities that may impact health, such as waste disposal.

Besides additional variables to cover, some respondents also suggested new ways of presenting and organizing existing data. These suggestions included:

- Make it possible to present data for voting and legislative districts: Understanding the distribution of housing needs, public assistance, health statistics, and so on by election and voting district is key to communicating issues with elected officials and neighborhood community groups.
- Provide historical data sets that go back to 1990 in order to carry out time series comparisons.
- Make maps easier to copy and load into word processing documents
- Provide charts breaking out income groups (30 percent of median, 50 percent, 80 percent, etc.)
- Provide more data at the "small area level (less than sub-borough)"
- Make it possible to provide data at a wider range of geographic scales.

Data Scale and Format

NYCHANIS allows users to examine data at a wide range of geographic scales, from the city as a whole to individual boroughs to community districts or smaller areas. While data for entire boroughs and the city as a whole are available for every variable, the smallest available geographic unit of analysis is not always the same. For example, while population and other data derived from the decennial census are available for census tracts, community districts, and larger areas, information taken from the Housing Vacancy Survey is available only for sub-borough and larger areas. Depending on the data source, some indicators are available for community districts while others are limited to sub-borough areas—which are similar but not identical to community districts. Crime data is only available for police precincts, education data is mostly organized by school district, and data on business establishments is presented by zip code.

The survey asked users to indicate how often they accessed data at different geographic scales (see Table 19). The most favored geographic unit of analysis, by far, was the community district and sub-borough area. One-third of the respondents said they almost always access data at this scale, and an additional quarter did so “fairly often.” Less than eight percent said they never used data at this scale. The next most-often used scale of analysis is at the borough level. Forty-three percent of the respondents indicated they accessed data at the borough level “fairly often” or “almost always,” compared to 39 percent who did so for the city as a whole. After the community district/sub-borough area, the next most frequently used small-area scales are the census tract, accessed at least fairly often by 39 percent of the respondents, and zip codes, 38 percent. The scales least often used are police precincts and school districts. It is important to emphasize, however,

that the frequency by which users access data at different scales may reflect the limitations of the data as much as individual preferences.

Table 19
Frequency by Which Data Are Accessed at Different Geographic Scales

Frequency of Access	City Wide	Borough Wide	Sub-Borough Area or Community District	School District	Census Tract	Police Precinct	ZIP Code	Custom Geographies
Almost always	19.4	18.3	33.3	8.8	20.4	6.1	17.9	5.9
Fairly often	19.9	24.7	24.3	7.2	18.2	7.7	20.1	7.9
Occasionally	26.9	28.5	20.1	23.2	22.1	19.9	18.5	15.3
Seldom	19.9	19.9	14.3	30.4	21.0	30.9	22.3	27.7
Never	14.0	8.6	7.9	30.4	18.2	35.4	21.2	43.1
Total	100	100	100	100	100	100	100	100
At least Fairly Often	39.2	43.0	57.7	16.0	38.7	13.8	38.0	13.9
Seldom or Never	33.9	28.5	22.2	60.8	39.2	66.3	43.5	70.8

Source: NYCHANIS user survey.

NYCHANIS also enables users to create “custom geographies,” whereby they can group selected geographic areas (e.g., census tracts, community districts) into a single entity. Only 14 percent of the respondents said they created Custom Geographies at least fairly often, while 43 had never used this feature and 28 percent had seldom done so.

Respondents were also asked about the frequency by which they used NYCHANIS to create tables, maps, and graphs. Table 20 shows that tables and maps were favored over graphs. More than 39 percent of the respondents indicated they created tables “almost always” (23 percent) or “fairly often” (16 percent). Slightly fewer respondents, 36 percent, percentage used NYCHANIS at least fairly often to generate maps. However, here, the “fairly often” category is dominant. NYCHANIS is used

substantially less often to graph data. Less than 20 percent said they made graphs at least fairly often.

Table 20
Frequency by Which Users Display Data in Tables, Maps, and Graphs

	Tables	Maps	Graphs
Almost always	22.9	12.9	8.1
Fairly often	16.4	23.3	11.6
Occasionally	22.4	22.8	29.8
Seldom	16.4	16.3	21.2
Never	21.9	24.8	29.3
Total	100	100	100
At least Fairly Often	39.3	36.1	19.7
<i>Seldom or Never</i>	38.3	41.1	50.5

Source: NYCHANIS user survey

Slightly more than half of the respondents (52 percent), usually use NYCHANIS to produce tables, maps and graphs. Slightly less than half (48 percent) usually use other computer programs to generate such exhibits. That is, after using NYCHANIS to access data, these users then transfer the data to other programs to create tables, maps, and graphs.

Purpose of Usage

The survey asked users to indicate the purposes for which they used NYCHANIS. The most common response, shared by nearly half the respondents, was research reports. The second most common purpose was market analysis, accounting for 27 percent of the respondents. Six other purposes followed, each with 16 to 19 percent of the responses. They are: *Advocacy, Student Projects, Grant Proposals, Real Estate Development Proposals, Policy Memos, Program Planning, and "Other."* The purposes cited least often,

each accounting for fewer than 10 percent of the respondents, are teaching, business plans, program evaluations, and journalism (see Table 21).

Table 21
Purpose of Use

Reason for Using NYCHANIS	Percent of Respondents
Research reports	49.3
Market Analyses	27.9
Advocacy	19.0
Student projects	18.1
Grant proposals	17.6
Real estate development proposals	17.2
Policy memos	16.7
Program planning	16.2
Other	16.2
Community organizing	13.0
Teaching	9.3
Business plans	8.3
Program evaluations	5.5
Journalism	3.7
N	208

Note: Respondents could indicate multiple uses for NYCHANIS
Source: NYCHANIS user survey.

In its original proposal for the TOP grant, the Furman Center emphasized the importance of NYCHANIS in helping nonprofit housing organizations improve their program planning and support their grant writing and other fund-raising activities. Although program planning and grant proposals are in the second tier of the uses to which NYCHANIS has been put, they are more salient among housing groups than other users. For example, 11 (61 percent) of the 18 respondents from nonprofit citywide and neighborhood housing organizations said they used NYCHANIS for grant proposals. Similarly, several of the participants in the focus group for nonprofit housing and community groups said they had used NYCHANIS for grant proposals. NYCHANIS was

also useful for purposes of lobbying local government officials and bankers and for completing loan packages, and market analysis.

A few survey respondents shared with the Evaluation some specific examples of how they used NYCHANIS:

- The University Neighborhood Housing Program in the Bronx published an article in its newsletter on the concentration of Section 8 voucher holders in its service area and the vulnerability of the area to proposed cut-backs in the program. The article was based on analysis of data obtained through NYCHANIS. The same organization used NYCHANIS to document the extent of severe affordability and housing quality problems in its Fordham Community Action Plan.
- A planner employed at a large for-profit firm used NYCHANIS to access demographic data for a study on Chinatown and for a Master Plan for a section of Staten Island.
- A board member of a community-based health care facility in the Bronx used NYCHANIS to assess potential need for additional services in the community. He presented the research to the facility's board of directors.
- Neighborhood Housing Services of New York City has used NYCHANIS for several purposes, including:
 - Preparation for meetings with funders and elected officials
 - Grant proposals
 - Providing background materials for neighborhood tours
 - Preparation of annual neighborhood plans.
 - Data analysis for an in-depth report on mortgage foreclosures in the Bedford-Stuyvesant section of Brooklyn.

USER SATISFACTION

The vast majority of respondents are satisfied with NYCHANIS. The survey asked about users' satisfaction with the site's overall ease of use, with its facility for producing tables, maps, and graphs, and with the site overall. Only a handful of respondents expressed dissatisfaction by these measures. However, while most

respondents were satisfied with NYCHANIS, the level of satisfaction was mostly moderate.

With regard to NYCHANIS's overall ease of use, only 12 percent of the respondents rated the system as poor or very poor. However, less than seven percent rated it as excellent. Most respondents gave NYCHANIS less extreme ratings, with 29 percent assessing its ease of use as good and another 33 percent as satisfactory (see Table 22).

Put another way, 26 percent of the respondents felt NYCHANIS's ease of use was at least very good, 55 percent felt it was at least good, and 88 percent felt it was at least satisfactory.

Table 22
Assessment of NYCHANIS's Overall Ease of Use

	Percent
Excellent	6.5
Very Good	19.4
Good	29.4
Satisfactory	32.8
Poor	9.5
Very poor	2.5
N	201
Very Good or Better	25.9
Good or Better	55.2
Satisfactory or Better	88.1
Poor or Worse	11.9

Source: NYCHANIS user survey

A similar pattern of response prevailed when users were asked to assess NYCHANIS for making tables, maps, and graphs. In no case were more than 15 percent of the respondents less than satisfied. On the other hand, few users considered NYCHANIS to be excellent (nine percent for making tables and less than four percent for

maps and graphs). For each type of output the most common rating was “Satisfactory,” with “Good” a close second. Users were somewhat more pleased with NYCHANIS’s facility for making tables than for maps and graphs. Table 23 shows that 33 percent of the respondents rated NYCHANIS’s capability for generating tables as Very Good or Excellent, compared to 24 percent for maps and 23 percent for graphs. Similarly, Tables were rated by 60 percent of the respondents as “good” or better, while 51 percent of the respondents gave this rating to maps and 53 percent to tables.

Table 23
Assessment of NYCHANIS for Producing Maps, Tables, and Graphs

	Maps	Tables	Graphs
Excellent	3.1	9.0	3.6
Very Good	21.1	24.1	19.6
Good	26.6	27.8	29.5
Satisfactory	36.7	28.6	32.1
Poor	10.2	7.5	10.7
Very poor	2.3	3.0	4.5
N	128	133	112
Very Good or Better	24.2	33.1	23.2
Good or Better	50.8	60.9	52.7
Satisfactory or Better	87.5	89.5	84.8
Poor or Worse	12.5	10.5	15.2

Note: Table excludes respondents who had never attempted to use NYCHANIS to produce maps, tables, or graphs.

Source: NYCHANIS user survey.

Finally, most respondents were satisfied or very satisfied with NYCHANIS overall, and few were dissatisfied or extremely satisfied. Table 24 shows that 38 percent of the respondents said they were satisfied with NYCHANIS overall, and 32 percent said they were very satisfied, with an additional six percent extremely satisfied. Another 17 percent were “neutral” in their assessment of NYCHANIS, neither satisfied nor

dissatisfied. Less than seven percent indicated they were dissatisfied or very dissatisfied with the site.

Table 24
Overall Satisfaction with NYCHANIS

Extremely Satisfied	6.1
Very Satisfied	31.6
Satisfied	38.3
Neutral	17.3
Dissatisfied	5.1
Very Dissatisfied	1.5
N	196.0
Total	
At least Very Satisfied	37.8
At least Satisfied	76.0
Dissatisfied or Very Dissatisfied	6.6

Source: NYCHANIS user survey.

There is little difference in the incidence of satisfaction among different types of users. Table 25 compares the percentage of respondents in various categories who were satisfied, very satisfied, or extremely satisfied with NYCHANIS. Few notable differences show up. The only statistically significant difference is that respondents who use NYCHANIS on a monthly or weekly basis are more likely to be satisfied than less frequent users. The table also shows that respondents with the highest rates of satisfaction are academics, students, and personnel from financial institutions and nonprofit housing providers. The least satisfied group is comprised of individuals who used NYCHANIS out of personal interest and not as part of their work.

Table 25
Percentage of Survey Respondents at Least Satisfied With NYCHANIS Overall

	Percent Satisfied	Total Respondents in Category
Affiliation		
Financial Institution	100.0	7
Academic	87.0	23
Student	83.3	24
Nonprofit Citywide and Neighborhood Housing Providers	81.3	16
Advocacy	71.4	7
For Profit Housing Group	71.4	7
Other	66.7	24
Government	66.7	27
Consultants	63.2	19
Individual	57.1	42
Age		
Under 20	89.0	5
20 to 29	73.5	49
30 to 39	72.7	44
40 to 49	74.3	35
50 to 59	66.7	45
60 and older	66.7	18
Sex		
Female	72.6	84
Male	70.5	112
Education		
Some College (no degree)	75.0	20
BA	61.8	55
MA	75.0	84
Ph.D.	75.0	20
J.D.	88.0	9
Other	87.5	8
Frequency of Use*		
Weekly	88.9	18
Monthly	78.7	47
Quarterly	75.0	72
Once or Twice a Year	55.9	59

Note: * denotes statistically significant difference at 99% confidence level.

Source: NYCHANIS user survey.

Perceived Strengths and Weaknesses

In two open-ended questions, the survey asked respondents to identify what they see as NYCHANIS's main strengths and weaknesses.⁵ As for the strengths of NYCHANIS, most respondents emphasized the breadth of data it provides. Nearly 60 percent of the respondents who answered this question (111) singled out the wide array of data available through NYCNANIS. In addition, eight percent of the respondents emphasized the wealth of housing-related data that can be accessed via NYCHANIS. In addition to the variety of data offered through NYCHANIS, nearly 11 percent of the respondents valued the accuracy and currency of the data.

Another strength, pointed out by more than one-quarter of the respondents, was the easy, and free, access to data provided by NYCHANIS. Included in this category were such responses as "consolidated access;" "ease of access to information;" Handy! Provides access to different kinds of information at a high level of granularity;" and "centralized location for broad range of information."

A closely related strength, mentioned by 14 percent of the respondents, was NYCHANIS's ease of use. Smaller percentages of the respondents singled out as strengths NYCHANIS's mapping and GIS features (seven percent), the ability to analyze and display data at a variety of geographic scales (seven percent), the ability to manipulate and/or customize data (three percent) and the ability to display data in a variety of formats (three percent).

The most frequent criticism of NYCHANIS, by far, concerned the difficulty of learning to use the system and inadequate ease of use. Of the 76 respondents who

⁵ See also Appendix B for additional comments and criticisms raised by the survey respondents,

identified specific weaknesses, 46 percent focused on different aspects of the user interface. A sampling of specific comments in this area:

- [NYCHANIS is] daunting for [the] first time user and so [there is] not much incentive to come back to it and spend time figuring out how to use it.
- Non-intuitive interface. Insufficient interface "intelligence"--meaning that once a geography is selected it should know what's available at that geography and what's not.
- While the basics aren't all that hard to master . . . more advanced techniques such as customized geographies etc. are fairly tough. Frankly, no one could accuse NYCHANIS of being intuitive or user friendly. Overall its "weakness" is that it s designed for Policy and Urban Development wonks who already know how to use it and what all of these carefully parsed categories indicate. Since it could be such a great resource for folks like me (grant writer for an anti-poverty non-profit who is always in need of information and statistics re: populations and neighborhoods that are hard to track). I think that more time, energy, and money should go into trainings/reconfigurations to make it more accessible.
- Have to use it several times to really understand what to look for and how to gain the most benefit from it.
- Hard to use. Took me a long time to figure out how to use citywide data.
- Slightly cumbersome interface.
- Interface is difficult to use. Organization of data and creation of tables and graphs is confusing. It is hard to get the output of data in the correct form.
- The weakness is the format. It's not exactly user friendly. Its interface could definitely be improved.
- I've been a computer professional for all my working life (about 40 years) and I've used PC s extensively both professionally and personally since the early 80s. Despite these qualifications, I cannot get NYCHANIS to work. The concept is exciting the execution shoddy. You need to re-address your user interfaces.
- Information provided is somewhat jargon-laden making it less accessible to the layman.
- The use of the system to extract information is not very user-friendly. It would take somebody with GIS type knowledge to use it and most people don't have that level of computer expertise with this type of software setup. I tried to used the

database twice but gave up on it because it took too long to figure out and it appears that maps and tables are not so quick and easy to create.

A second criticism, offered by 14 percent, concerned the kinds of data provided by the system. Several respondents commented on the lack of longitudinal data, limiting NYCHANIS's utility for time series analysis. Other respondents would like NYCHANIS to cover additional topics, including medical and health data.

A third weakness, also cited by 14 percent of the respondents, had to do with shortcomings with NYCHANIS's facility for generating, revising, and formatting maps, graphs, and other exhibits. Some illustrative comments in this regard:

- Hard to use and make exhibits.
- Since I often used NYCHANIS Stats along with US Census Stats it would be good if I could gather them both in the same layout. I copy the stats into Excel and if they were laid out the same way it would make it easier for me to format my Excel document.
- The inability to change details of the graph on NYCHANIS (sic).
- Inability to manipulate maps.
- Technological difficulties with trying to use the maps and graphs - software steps provided to get specific information added to the maps and graphs were not responsive or intermittently so - VERY discouraging.
- Map creation tools are clunky--a problem common to most internet map creation interfaces.
- Occasionally I find the maps too general.
- Map refresh time is painfully slow and it is difficult to identify specific census tract boundaries without lots of clicking on the map.
- Even with training, I find it hard to set up charts maps etc. This may also be because I do not attempt it on a regular basis.

Two other weaknesses, technical malfunctions and the uneven availability of data at certain geographic scales, were each highlighted by eight percent of the respondents.

The technical malfunctions include a variety of complaints, some of which are more specific than others:

- System gives trouble to operate; you can give commands to NYCHANIS and the system won't provide it.
- System glitches
- ...the errors that occur in the system (unreliable).
- Slow erratic operation.
- I had lots of problems -- seems very buggy.

Some respondents wished that NYCHANIS could provide the same level of geographic detail for a broader range of variables. Some of the specific comments in this regard are as follows:

- Inflexibility of geographies (e.g. police data only available by precinct and not spatially matched to corresponding Community Districts etc.)
- Information I need is not at the geographic areas I need; ... I didn't stick with it because of geographic limitations on data I needed in a hurry.
- Some data is only available for some categories so creating composites takes more effort than I'd like or can't be done at all
- Some data are not available for all neighborhoods.
- '[a weakness is] figuring out which types of data are available at what level and moving through the program to get desired outputs.'

A few respondents, seven percent, felt NYCHANIS should offer users better documentation on the limitations of the data and more guidance for analyzing the data:

- Lack of a "key indicators" analysis tips --- a kind of step by step "look at this use of data" section... Forums don't work without hot buttons... I suggest a monthly newsletter that links the work of Policy Link/Enterprise/LISC (a couple others) to the data in NYCHANIS... Why? NYC has a sustainability index of some kind that requires more exploration... Developing data resources and user interfaces ahead of its user needs or demand is a problem to be consistently defined.
- You may need to more strongly warn or explain to users about the relative weaknesses or cautions of sample data for small areas so the data can be used appropriately.
- Need help for low-income [users]. [It's] hard for less computer- literate users to access the excellent information.
- Does not explain well how large the samples are for the statistics provided.
- Lack of explanation on the data.

Finally, 13 percent of the respondents pointed out several weaknesses that were too diffuse to capture in a single category. These included observations concerning the need to make more people aware of NYCHANIS and its data resources (i.e., inadequate outreach and marketing); incomplete data coverage in the neighborhood profiles (too many "NAs"); inability to accommodate user data sets (i.e., NYCHANIS cannot map or otherwise manipulate data provided by the user); difficulty linking data from NYCHANIS with other data sets and software applications ("Labels sometime obscure the original place code. I need those codes sometimes to link to other data and right now I have to hand-enter a "Crosswalk" between your labeled data and my other data. I either need a separate label file from you or I have to continue doing it myself).

The two focus groups elicited similar comments on the strengths and weaknesses of NYCHANIS. Participants at the focus groups for HPD and CDC staff members praised NYCHANIS for the wealth of data it provides, and the ability to produce maps and other output quickly and at a variety of geographic scales. Criticisms voiced at the

HPD focus group tended to concern NYCHANIS's mapping and graphing functions, and the amount of time it takes to complete certain tasks. At the focus group for nonprofit housing and community groups, some participants felt the site was difficult to navigate, and lacked sufficient explanation for certain functions. Others spoke about difficulty transferring maps from NYCHANIS to word-processing documents, and the lack of data at certain geographic units of analysis. There was broad consensus that NYCHANIS was a valuable resource, but too few organizations were aware of it (see Appendix A for a summary of the two focus groups).

TRAINING

NYCHANIS mounted three training sessions in June and July 2004, which were attended by a total of 53 people. Table 26 presents an overview of the attendees in each session in terms of their demographic characteristics, computer skills, previous experience using NYCHANIS, and the capacity in which they use or plan to use NYCHANIS. *Just over half of the attendees were thirty to fifth years old. One quarter were under thirty and one-fifth were over fifty. Slightly over half the attendees who indicated their gender were women. (30 of the 53 attendees did not indicate their sex on the questionnaire; perhaps the design of the questionnaire caused them to overlook this question). Sixty-four percent of the participants in the training sessions were nonhispanic Whites and 19 percent were Asian. Blacks made up ten percent of the participants and Hispanics four percent.*

Most of the participants considered their computer skills to be in the intermediate range. On a scale of one to ten, the average score was seven. Less than 15 percent rated their skills at four or below.

The majority of participants in the training sessions had little if any previous experience with NYCHANIS. More than one-third of the participants had never tried to use NYCHANIS and nearly half had used it only once or twice. Only 17 percent of the participants had used the system three or more times.

The participants use, or plan to use, NYCHANIS in a diverse range of capacities. The single largest group, accounting for nearly a quarter of all attendees, worked in government. Individuals affiliated with nonprofit or for-profit housing organizations accounted for 17 percent of the attendees, followed by academics, who accounted for 15 percent. Seventeen percent of the participants designated their capacity as “other.” They included, among other occupations, journalists, community organizers, and tour guides.

The participants were asked several questions about their satisfaction with the training sessions. The responses were very positive across the board, as indicated in Table 27. When asked to rate on a five-point scale how helpful the session was, more than one-quarter gave it the highest rating, saying the session was “very helpful.” An additional 40 percent gave the session the next-highest rating. Only six percent felt the session was less than “moderately helpful.”

Participants were asked to rate their satisfaction with the content of the training session and with the quality of the instruction, both on a ten-point scale. The median rating in each dimension was eight points.

Table 26
Overview of NYCHANIS Training Session Participants

	7/15	7/13	6/24	Total
Total Participants	11	23	19	53
Age (percent distribution)				
Under 30	27.3	13.0	36.8	24.5
30 to 50	54.5	69.6	36.8	54.7
Older than 50	18.2	17.4	26.3	20.8
Sex				
Female	33.3	77.8	50.0	56.5
Male	66.7	22.2	50.0	43.5
Race				
White	54.5	57.1	77.8	64.0
Black	0.0	14.3	0.0	10.0
Hispanic	9.1	4.8	11.1	4.0
Asian	36.4	19.0	11.1	20.0
Other	0.0	4.8	0.0	2.0
Computer Skills (rated from 1 to 10)				
Less than 5	27.3	0.0	21.1	14.0
5 - 7	36.4	45.0	36.8	42.6
8 - 10	36.4	55.0	26.3	42.6
Median	7.0	8.0	8.0	7.0
Prior Use of NYCHANIS				
None	45.5	39.1	27.8	36.5
Once or Twice	18.2	52.2	55.6	46.2
Three to Five	18.2	4.3	0.0	5.8
Six to Ten	0.0	0.0	11.1	3.8
More than Ten	18.2	4.3	5.6	7.7
Organizational Affiliation				
Nonprofit Community based housing group	9.1	4.3	10.5	7.5
Nonprofit citywide housing group	9.1	4.3	5.3	5.7
For-profit housing group	0.0	4.3	5.3	3.8
Civic group	18.2	4.3	0.0	5.7
Advocacy Group	0.0	4.3	5.3	3.8
Academic	0.0	17.4	21.1	15.1
Financial Institution	0.0	0.0	5.3	1.9
Government	18.2	30.4	15.8	22.6
Student	18.2	4.3	5.3	7.5
Individual	18.2	4.3	10.5	9.4
Other	9.1	21.7	15.8	17.0

Source: NYCHANIS training session evaluation forms.

With respect to the content of the training sessions, less than 16 percent of the participants rated their satisfaction at five points or less, and 28 percent rated it at nine points or higher. Less than 20 percent of the participants rated their satisfaction with the quality of instruction at five points or less and 38 percent rated it at nine points or above. In another indicator of satisfaction, 84 percent of the participants felt the session had improved their ability to use NYCHANIS, and 90 percent said they would recommend the session for colleagues.

Table 27
Satisfaction With NYCHANIS Training Sessions

	7/15	7/13	6/24	Total
Satisfaction with Content of Training Session (Rated from 1 to 10) (percent distribution)				
1 to 4	0.0	4.8	5.3	3.9
5 to 7	18.2	42.9	52.6	41.2
8 to 10	81.8	52.4	42.1	54.9
Median	8.0	8.0	7.0	8.0
Satisfaction with Quality of Instruction (Rated from 1 to 10)				
1 to 4	0.0	4.8	5.3	6.0
5 to 7	0.0	42.9	52.6	28.0
8 to 10	100.0	52.4	42.1	66.0
Median	9.0	7.5	8.0	8.0
Helpfulness of Training Session (Rated from 0 to 5)				
0 (Not at all Helpful)	0.0	0.0	0.0	0.0
1 (Slightly Helpful)	0.0	9.1	5.3	5.9
2	0.0	0.0	0.0	0.0
3 (Moderately Helpful)	10.0	27.3	31.6	25.5
4	30.0	36.4	52.6	41.2
5 (Very Helpful)	60.0	27.3	10.5	27.5
Median	5.0	4.0	4.0	4.0
Do you feel you are better able to use NYCHANIS as a result of this session?				
Yes	100	95.2	94.7	96.1
No	0	4.8	5.3	3.9
Would you recommend this training session for your colleagues?				
Yes	90.9	90.9	89.5	90.4
No	9.1	9.1	10.5	9.6

Source: NYCHANIS training session evaluation forms.

CONCLUSIONS

Although the system took longer to develop than originally anticipated, NYCHANIS quickly became a major source of data on housing and community conditions in New York City, attracting several thousand users within a few weeks of its completion in January 2004. By the end of September, 2004, more than 5,000 individuals had signed on to use NYCHANIS, and the system registered nearly 16,000 sessions—about nine thousand of which last for more than one minute and involved more than three page views.

NYCHANIS has had much more success as a searchable Internet-based data resource with mapping and graphic capabilities than as a forum for discussion and information on housing policy and programs. Although NYCHANIS was originally scheduled to convene six virtual “Town Hall” discussions with the Commissioner of New York City’s Department of Housing Preservation and Development, turnover in the Commissioner position and problems with the software application selected for the on-line discussions caused NYCHANIS to hold just one Town Hall, and that did not take place until September 22. The delay in starting up the virtual Town Hall discussions may have contributed to the lack of activity seen by NYCHANIS’s topical bulletin boards. Of the 13 bulletin boards set up in NYCHANIS’s “Information Exchange,” the only one to experience any use at all concerned NYCHANIS itself; the 12 bulletin boards that focused on specific programs and policy issues remained inactive throughout the evaluation period.

NYCHANIS has attracted a wide variety of people, a majority of whom are individuals who have used NYCHANIS out of personal interest and not in connection to their employment or occupation. Nonprofit housing providers, the primary intended market for NYCHANIS, account for four percent of all registered users, amounting to 200 people.

Users downloaded all but 18 of NYCHANIS's 1,395 data indicators during the system's first nine months of operation. Most often, NYCHANIS is used to obtain data on demographics and population, housing values, and the housing stock. NYCHANIS was used most frequently for research reports and market analysis. Other common uses include advocacy, student projects, grant proposal, real estate development proposals, policy memos, and program planning.

A large majority of users are satisfied with NYCHANIS. Only a small percentage of the respondents in the user survey expressed dissatisfaction with the system. However, most respondents are only moderately satisfied. While many users praise NYCHANIS for the wide array of data it provides, a substantial portion have difficulty with the site's user interface and wish it would be simpler and more intuitive to navigate.

List of Interviews

Scott Mastellon, Project Manager, Bowne Management Systems, Inc., October 1, 2004

Caroline Bhalla, NYCHANIS Project Director, October 8, 2004

Michael Schill, former Director of the Furman Center for Real Estate and Urban Policy,
New York University School of Law, October 7, 2004

Denise Previti, Former NYCHANIS Project Director, September 27, 2004

APPENDIX A-1

NYCHANIS Evaluation

Focus Group Summary Notes

Dept. of Housing Preservation and Development

September 28, 2004

Description of Participants

- 7 participants (4 female and 3 male) attended the focus group to describe their experiences with the NYCHANIS website.
- Various functional areas of the department were present. The participants represented the 1) Technical Services, 2) Resource Development, 3) GIS, 4) Housing Finance, 5) Housing Education Services and 6) Communications sections.
- The level of computer skills and familiarity with mapping applications also varied from experienced users to novices.
- HPD staff used the website as a resource to assist in Commissioner presentations, community outreach activities, brochure development and to field requests from reporters.
- All participants used the website at least twice. Two people used it more than five times.
- As a general note regarding HPD, there are approximately 100 registered users of NYCHANIS and HPD also provided a training session earlier in the year attended by about 40 staff members.

Experiences with NYCHANIS website

- Generally, the program was viewed as well organized and user-friendly. Other adjectives that were used to describe NYCHANIS include easy-to-use, helpful, convenient and reliable.
- Most people used the website to access raw data and create maps. To a lesser extent, the participants were familiar with the table and graphing functions.
- Overall, it was viewed as a good source for data but not used extensively for other capabilities.
- HPD staff employed trial and error to familiarize themselves with NYCHANIS. They expressed that a willingness to play around and previous familiarity with mapping applications were needed to effectively use the website. One participant reported that laymen (e.g., reporters) had trouble using the website.

- Only 3 people were aware of the existence of the Information Exchange module. First mover apprehension may be at work. Also, HPD staff did not have the ability to participate in website chats.
- The group agreed that NYCHANIS is easier to use than Infoshare, faster than the U.S. Census website and more flexible than the Dept. of Planning's website.

Likes

- Overall, the mapping function was well received. It was identified as a helpful intermediate tool to recognize broad patterns.
- The group liked the categorization of data that NYCHANIS provided. However, most users accessed the data and exported it for analysis in other software packages.
- The group viewed the ability to group the data by community districts, neighborhoods and subboroughs as important.
- The help function was deemed as adequate technology that effectively categorized the information.

Dislikes

- One participant experienced performance issues with the redraw function while mapping.
- The address search was initially discredited because it did not successfully locate HPD's office. Once it failed on this simple test, staff did not trust future results.
- The amount of time and pages to navigate to arrive at desired information was deemed too long.
- A few participants noted that the system automatically logged them off or rejected the user during a session.
- The data reference information took too long to load.
- Neighborhood profiles are difficult to locate.
- The system did not provide the ability to adjust labels while using the graphing function. Subsequently, the user exported the data and utilized Excel for display purposes.

Other comments

- HPD staff would like to be able to search for data at a finer level of detail. Block and Lot information were specifically mentioned. (Obviously, this depends upon data availability)
- Participants also recommended the creation of shortcuts to the data and the addition of “plain English” search capability.
- According to the focus group, future opportunities for training would be helpful.
- The addition of 1) zoning code, 2) market rent and 3) home sales (# of units and average sales price) data was requested.
- The group questioned the need for a log-in type of system and suggested open access.
 - HPD staff noted that there is no way to contact NYCHANIS via telephone for assistance with the program.
- The participants reported that there was a lukewarm reception by city officials to the idea of maintaining NYCHANIS within the HPD.

APPENDIX A-2

NYCHANIS Evaluation

Focus Group Summary Notes

Association for Neighborhood and Housing Development

October 1, 2004

Description of Participants

- 7 participants (2 female and 5 male) attended the focus group to describe their experiences with the NYCHANIS website.
- Representatives from Neighborhood Housing Services of Jamaica, Fordham Bedford Housing Corporation, VIP Community Services, University Neighborhood Housing Program and the Association for Neighborhood and Housing Development were present. They work as grant writers, organizers, trainers, deputy executives, real estate developers and policy analysts.
- ANHD member organizations have used the website for a variety of reasons. Participants mentioned that NYCHANIS assisted in tracking data, educating City Council members, lobbying the private sector (banks), preparing grant proposals and for completing loan packages, lines of credit and market analysis.
- Four people used the website more than five times. Only two individuals used it less than five times. One person attended a NYCHANIS training session.

Experiences with NYCHANIS website

- Overall, the focus group participants felt very positive about the website. They felt the program was a great resource to create “quick and dirty” maps and that it is reasonably easy to use for those with moderate computer skills. Experience with GIS programs as well as the *State of New York Housing Report* was advised.
- Most people used the website to create maps and produce graphs for neighborhood comparisons and longitudinal analysis. To a lesser extent, the participants were familiar with the table function.
- Popular datasets include: 1) land use patterns, 2) housing quality, 3) sub-prime lending, 4) foreclosure rate, 5) housing type, 6) income levels and 7) rents.
- Only 1 person had used the Information Exchange module. No one knew of the “Town Hall” presentation with the HPD Commissioner but many would have been interested if informed of its occurrence.
- The website was viewed as easier to use than other sites such as the Census because of its self-evident graphic display. Also, it was regarded as more in depth than Infoshare.

Likes

- Generally, the website met or exceeded the expectations of the focus group participants. They liked the fact that the site gives community groups electronic access to a wide variety of timely data.
- The group categorized the website's performance as fast.
- Using NYCHANIS made it easier to convince HPD staff of the reliability and validity of the data during presentations. Participants liked the fact that the information found on the website was from a trusted and credible source.
- NYCHANIS was described as having a nice look because of its logical visual representation of data and functions.
- Most of the people recommended NYCHANIS to their colleagues.

Dislikes

- One participant thought the website was difficult to navigate and that there was perhaps too much information present.
- The lack of exposure and publicity of the NYCHANIS was seen as a negative. In fact, someone thought the site was still in the beta testing phase.
- The group felt that more detailed explanation of some functions is needed.
- Some noted that the website has trouble comparing data that isn't available for the same geography across variables.
- Neighborhood profiles are difficult to locate.
- The representative from NHS had trouble with graphing some information from a table. All data appeared in the table but some was missing on the graph. Also, the title only allows for alphanumeric characters and will not allow dashes or other symbols.

Other comments

- Some participants expressed the desire to import and map external data.
- The ability to export maps in order to print in larger formats is desired.
- *Better publicity of NYCHANIS and electronic notification of updates was suggested.*

- The addition datasets such as 1) # of units, 2) # of stories, 3) affordability levels, 4) appraisal value and 5) market value was requested.
- Detailed data on a block and lot basis would be helpful along with the ability to select blocks, lots and census tracts for analysis.
- An instruction manual that can be downloaded to user's desktops should be added to the website.

APPENDIX B

Comments and Suggestions from the NYCHANIS User Survey

This appendix provides verbatim responses in the NYCHANIS user survey to an optional item inviting comments, questions, or criticisms. All responses are direct quotations, with spelling errors corrected as necessary.

- Enjoyed the town hall session on 9/22.
- For 12 years I have worked at HPD on the NYC Housing and Vacancy Survey/Report. I provide the Census Bureau with the addresses/apartment names of stabilized controlled apartments as well as those regulated by HUD, the Loft Board NYCHA etc. In so doing I have extensive experience with City Planning's geographic information system. I also do a lot of work preparing the tables and charts for the report. I use low-level programming code (VBA) to generate tables from the raw data and Word Perfect to do the graphics. I also am involved in preparing grant proposals based on small area (Census tract-level) demographics. For this I use American Fact Finder to get the Census data and MAPTITUDE to do the thematic maps. I congratulate you for your effort to develop an "integrated" or "seamless" tool for analysts but it is something that I feel I do not need. I am happy with the tools I already have.
- Good luck.
- Good work!
- I have filled in the mandatory answers so you'll get this message, but the fact is I don't use NYCHANIS because I can't make it work.
- Honestly: I accessed it once after reading an article (in the NYT?) and exercised my curiosity by looking at different data. I do not use the data in my work (software quality assurance) in any way.
- I am a property tax administration person who uses the site for information as to what things have been done.
- I expect that my responses may change somewhat after attending NYCHANIS training.
- I know that my responses were a little wacky. I don't really need your site for my work

since I'm confined to Morris county NJ. but I thought your site was fantastic and have sent a link to other people.

- I think that NYCHANIS needs to develop "issue areas" that provide examples/templates for how the data and maps can be used to answer questions or present options for describing issues that can be applied to varying levels of geography. A great ongoing class project. It would also be good to give examples as to how the data can be manipulated via common software to answer describe explain issues that NYCHANIS is not equipped to handle.
- I think that this is a fabulous resource that just needs a little fine-tuning (and/or training and PR) in order to become more widely accessible. Am very grateful that it exists, that it's free and that Caroline is so enthusiastic, competent and helpful. Thanks so much to all of the many folks who work to bring us NYCHANIS.
- I used NYCHANIS for a project on Flushing for a Race Immigration and NYC class and it was such a helpful tool. I was surprised anything this detailed and informational had been created. It seems to be a huge undertaking and I was very impressed not to mention grateful it exists. Thank you.
- I've used NYCHANIS rather little but actually more often recommend it to others seeking information I cannot readily provide-- i.e. by zip code or by groups of census tracts.
- I will try to use the system more often. Unfortunately, I was not able to attend an informational/product knowledge NYCHANIS provided earlier this year but I am happy to know that there is another great resource to find information when I need it. Thanks.
- I would like to see NYCHANIS have workshop or presentations in our community districts. I especially would like to extend an invitation to our community district 4 general meeting or one of our committees.
- Information Technology has a tendency to move ahead of user demand. The problem with data driven argument is it tends to go blind on social change factors. You might call these factors the exceptions that make the rule. The old saying about lies damned lies and stats is funny because of the truth in it. If the above is understood NYCHANIS will make room for various forms of social advocacy within the site. The inherent challenge of database backed websites is to build the capacity to focus new instruments of change.
- It's a great site- I wish more folks knew about it.
- it's a very useful resource--you just have to get the word out!!
- Keep up the good work - NYCHANIS is a useful site and one that can only get better with time.
- Maybe there's a way to get more publicity for this in the news or in local neighborhood newspapers.

- NYCHANIS is a terrific project that warrants continued support from Commerce.
- NYCHANIS is a very worthy tool pls. keep up the fine work.
- Please offer additional trainings.
- Sorry; I haven't used it very much so I don't know how helpful my comments are.
- Thank you for making this service available to us.
- Thank you for providing such a great tool to the public.
- The concept of allowing easy access to various level of data is a good one. work on making the interface more usable and the download of data quicker. Trying to get data out of NYCHANIS to join to my own GIS shapes is a Herculean effort most of the time to no avail. You should also think about using available information to bring things down to the neighborhood and parcel level using existing City Planning files.
- This is a tremendously important resource to my work as CEO of a nonprofit organization.
- This is first year of start up. Plan to use extensively in future.
- Well done.
- When I first tried NYCHANIS I was turned off by how cumbersome it was and how little data was available that wasn't just as readily available elsewhere. I had hoped that by this time the site would have improved. But I tried it again recently and found no significant improvement.