

NEW YORK CITY TRANSIT RIDERS COUNCIL



TROUBLING SIGNS

A Signage Survey of the New York City Subway System

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EXECUTIVE SUMMARY

INTRODUCTION

In 1997, the New York City Transit Riders Council¹ undertook a survey of subway station signage to assess the condition of signage in 100 stations. The 1997 Subway Signage Survey found that while entrance signage had improved dramatically in the ten years since the last survey in 1987, a number of key signage problems were found at station entrances, control areas, mezzanines / passageways, and on platforms.

This report is a follow-up to the 1997 Subway Signage Survey. Council members observed a number of incorrect signs; therefore, the decision was made to undertake a signage study again.

The objective of the 2002 New York City Transit Riders Council survey was to determine whether New York City Transit is doing a poor, adequate or excellent job in communicating all service, transfers, and hours of service through their signage program. The study also compared the condition of subway station signage in 2002 to that of 1997 to identify where improvements have been made and where they are needed. The specific goals of the study were:

- to determine if sign information included a correct and adequate listing of all service to and at the station;
- to determine if sign information was clearly stated and easy for riders to use;
- to determine if signs were well placed to guide riders to their desired destinations;
- to identify areas for signage improvement; and
- to identify ways to make subway signage more accurate, clear and consistent

STUDY METHODOLOGY

The 2002 study focuses on signage at entrances, control areas, mezzanines and passageways, and platforms at a sample of 106 stations throughout the subway system. A total of 304 entrances, 154 control areas, 101 mezzanine and passageway areas, and 256 platforms were evaluated.

¹ The New York State Legislature created the New York City Transit Riders Council (NYCTRC) in 1981 to represent the interests of New York City bus and subway riders. The Governor upon the recommendation of the Mayor, Public Advocate, and the five Borough Presidents appoints the 15 volunteer members.

The 106 stations were selected for study out of a total of 419 stations in the system.² One hundred and two stations were selected according to a Quota Sampling Method.³ Four stations with pre-identified signage deficiencies were included as additional stations in the sample.

The methodology used in 1997 was replicated to allow comparison. Some evaluative elements were added to aid the data analysis process, to reflect changes in the system since 1997, and to expand the scope of the survey.

NYCTRC members and staff completed surveys of all stations between late March and early June 2002.

FINDINGS 2002

While some signage improvements have been made since 1997, signage deficiencies have generally worsened in 2002.

BY STATION AREA

- **More than half (54%) of the entrances had at least one signage problem.** The most frequent problem was the lack of entrance globes to indicate whether access to the entrance was full-time or restricted during certain hours (22%).
- **Almost three-quarters of the control areas had at least one signage deficiency (71%).** The most frequent problems in control areas were the lack of a neighborhood map (42%) and an updated MTA subway system map (37%).
- **Two-thirds of the mezzanines and passageways had signage deficiencies (68%).** The most frequent deficiency was exit signs with missing street corner direction and street name information (40%).
- **Over three-quarters of the platforms had some form of sign deficiency (85%).** Sixty-seven percent of the platforms had general signage deficiencies. The most frequent general signage problem on platforms was a missing or outdated subway system map (49%). The most frequent platform edge sign problem was the inadequacy of placement along the length of the platform (44%).

² The 419 stations in the system are reduced from the customary 468 identified by NYC Transit. The reduced number reflects the count of station complexes as one station as well as the omission of four Manhattan stations temporarily closed at the time of the study due to the events of 9/11/02.

³ A method of sampling that allows for a random selection (of stations) that is proportional to pre-determined criteria within the total population (number of stations within the system).

BY BOROUGH

- **Bronx entrances had the highest percentage of signage deficiencies (78%).** Over half of the entrances in Manhattan (56%) and Brooklyn (52%) had signage deficiencies. Queens (49%) had the lowest percentage of deficiencies.
- **Brooklyn control areas had the highest percentage of deficiencies (75%).** Control area signage deficiencies in Queens (73%) and Manhattan (71%) were slightly lower than Brooklyn. The Bronx had the lowest percentage of control area deficiencies (57%).
- **Queens mezzanines and passageways had the highest percentage of deficiencies (88%).** Bronx mezzanines and passageways had the next highest level of deficiencies (79%), followed by Brooklyn (71%). Manhattan had the lowest percentage of mezzanine and passageway sign deficiencies (17%).
- **Brooklyn platforms had the most general platform signage deficiencies (87%).** Three-quarters of the platforms in Queens (76%) had signage deficiencies, followed by Manhattan (60%). Signage in the Bronx had the least deficiencies (39%).
- **Brooklyn platforms were the most deficient in platform edge signs (78%).** Manhattan platform edge sign deficiencies were the next highest (73%), followed by Queens (69%). Bronx platforms had the least signage problems (50%).

2002 VERSUS 1997

IMPROVEMENTS SINCE 1997⁴

- **Less Vandalism.** Vandalism decreased most significantly on platform (-5%) and mezzanine/ passageway signage (-2%) since 1997.
- **More Turnstile Signs.** More turnstile signs have been installed since 1997- a decrease in missing signs (-3%).
- **Increased Listings of Part-Time Entrance Hours.** More part-time entrances provide signage information about open hours in 2002 compared to 1997- a decrease in missing entrance hour information (-3%).

⁴ For the purposes of comparison, 2002 percentages are adjusted to include only those categories evaluated in 1997.

DETERIORATION SINCE 1997

- **Missing / Incorrect Line and Direction of Travel Information.** Deficiencies increased the most in mezzanines and passageways (+20%),⁵ followed by control areas (+9%), platform edge signs (+5%), and entrances (+3%).
- **Unclear, Confusing Information.** Deficiencies were highest on mezzanine / passageway signage (+14%), followed by platform edge signs (+10%), and control area turnstile signs (+7%). Unclear, confusing information on entrance signage increased to a lesser degree (+2%).
- **Obstructed Signs.** The presence of obstructed signs increased in all areas of the station - from five to nine percentage points. Obstructed signs increased the most in mezzanines and passageways (+9%), followed by entrances (+7%), control areas (+5%), and platforms (+5%).
- **Poor Sign Placement.** While sign placement policies have not changed since 1997, sign placement was perhaps more scrutinized in 2002. Placement of signs was worst for platform edge signs (+40%), followed by mezzanines and passageways (+19%), and turnstile signs in control areas (+5%). While strides were made in the installation of more turnstile signs in control areas, this was offset by deficiencies in sign placement.
- **Vandalized Signs.** While not a problem in 1997, vandalism was found at three percent of the turnstile signs evaluated in 2002. Vandalism worsened slightly at entrances in 2002 (-1%).
- **Missing Globes.** Missing globes was the most frequent problem identified with entrances in 1997 and 2002. The problem has remained constant: 22 percent of the entrances evaluated in 1997 were missing globes compared to the same percentage in 2002.
- **Incorrect Globe Colors.** The problem of incorrect globes at entrances increased by six percentage points since 1997.
- **Missing Station Name at Entrances.** Missing station name signs at entrances increased by three percentage points since 1997.
- **Missing Part-Time Token Booth Hours at Entrances.** While the listing of part-time entrance hours improved, the listing of part-time token booth hours worsened (-2%).
- **Incomplete Destination Listings on Platform Edge Signs.** Incomplete listings of destinations on platform edge signs increased in 2002 (+9%). In 2002,

⁵ This category was defined differently in 1997. See Table 13 for details.

inconsistencies in the listings of destinations were also found between platform edge signs at different stations along the same line.

- **Missing Platform Edge Signs.** The occurrence of missing platform edge signs experienced a slight increase in 2002 (+2%).

IMPROVEMENTS BY BOROUGH SINCE 1997

- **Mezzanine and passageway signage deficiencies improved significantly in Manhattan and Queens since 1997.** In Manhattan, signage deficiencies improved by 33 percentage points. In Queens, signage deficiencies in mezzanines and passageways improved by 29 percentage points.

DETERIORATION BY BOROUGH SINCE 1997

- **Manhattan and Brooklyn entrances had the most signage deficiencies since 1997.** Manhattan entrance signage deficiencies increased by 19 percentage points, while Brooklyn signage deficiencies increased by 18 percentage points. Queens entrance signage also worsened (+15%). The Bronx had a minimal increase in entrance deficiencies (+1%).
- **Brooklyn and Queens control area signage had the highest deficiencies since 1997.** Control area signage deficiencies in Brooklyn worsened by 23 percentage points and by 22 percentage points in Queens. Manhattan (+9%) and the Bronx (+7%) had lesser deficiency increases.
- **Mezzanine and passageway signage deficiencies worsened in Bronx and Brooklyn stations since 1997.** In the Bronx, mezzanine and passageway signage deficiencies worsened by 13 percentage points. In Brooklyn, signage deficiencies worsened by 23 percentage points.
- **Brooklyn platforms had the most edge signage deficiencies (+52%) since 1997.** Platform edge signage deficiencies increased as well in the other boroughs in 2002 more than any other area of signage: Bronx (+33%), Queens (+33%) and in Manhattan (+27%).

RECOMMENDATIONS

GUIDING PRINCIPLES

- **Accuracy.** Signage should provide accurate, timely, complete, and up-to-date service information. As was recommended in the 1997 study, content for new signs should be carefully reviewed for accuracy before signs are produced and installed. In addition, a process should be implemented

whereby all signage is examined on a regular and routine basis to ensure that the information provided is complete and up-to-date.

- **Clarity.** Signage should be clear, simple, and easily understood.
- **Consistency.** Signage should be consistent system-wide. Information should be presented in the same word order, wherever possible, and attention should be paid to providing consistent information at all station segments of a line.

SYSTEM-WIDE RECOMMENDATIONS

Access to and from the Station

- **Create New Globe Policy.** The current globe policy is clearly not working. A new strategy is needed. In the short term, globes should be removed from exit-only, non HEET staircases and incorrect globes should be painted to accurately reflect the current entrance type. NYC Transit should conduct a review of policies and practices used at entrances in other subway systems to indicate service hours. At the same time, NYC Transit should investigate technologies that are currently on the market or in development that allow for temporal changes by “the flip of a switch”. A technology such as this would permit a station agent or other Transit employee to more accurately indicate if an entrance is open or closed at a particular time by changing the color of the bulb that is lit.

In the long term, a new well-defined globe policy should be developed that is tied to a reclassified system of entrances. Entrances should be redefined to reflect a current status: open, closed, and access available only by MetroCard. Entrances that are currently open should be indicated with a green globe, currently closed entrances should have a red globe, and MetroCard access only entrances should have yellow globes. Once the new policy is instituted, an extensive public education campaign should be undertaken to inform riders.

- **Indicate Where Access Is Possible to Both Directions of Travel Via Underpass or Overpass on Entrance and Turnstile Signs.** Entrance and turnstile signage, where applicable, should indicate that riders must use an underpass or overpass to access the alternate direction of travel. Information should also specify an alternate entrance with more direct access to the platform for that particular direction of travel.
- **Standardize Exit Signs in Control Areas and Stairways to Include Street Name and Corner Directions.** Street corner direction and street names should be required on exit signs above turnstiles, in control areas, some mezzanines and passageways, and stairways.

- **Install Bus Route Connection Signage at All Stations.** Bus route connection signage should be installed at key exit and entry decision points within the control, mezzanine and passageway areas. Priority should first be given to installing bus route connection signage at stations identified on the MTA Subway System Map as major bus transfer points.
- **Provide Neighborhood Maps at All Control Areas.** Where feasible, neighborhood maps should be installed as part of Customer Information Centers. Maps should be created to help riders find their way (wayfinding) by providing easier to read, visual graphic icons to identify key area landmarks and include the location of bus stops adjacent to subway stations. These maps should be developed in consultation with the local community boards, reviewed periodically and updated as needed.

Accuracy and Adequacy of Line/ Service Information

- **Identify Line and Service Information Consistently on Entry, Turnstile, Mezzanine and Passageway, Platform Stair, and Platform Edge Signage.** Attention should be paid to providing consistent and accurate information on signage throughout all areas of the station.
- **Develop Consistent Wording, Word Order, Format and Information for Platform Edge Signs.** Consistent wording, word order, format, and information is critical to guiding riders through such a complex system. All platform edge signs should contain the following information:
 - ▶ *BOROUGH DIRECTION* – Borough direction should include all the boroughs that the line passes through in a particular direction.
 - ▶ *LINE NUMBER/LETTER*
 - ▶ *LAST STATION STOP DESTINATION*
 - ▶ *LAST NEIGHBORHOOD STOP DESTINATION*
 - ▶ *HOURS OF SERVICE* - Hours of service should be specifically defined on platform edge signs according to normal and late night service hours.
 - ▶ *ALTERNATE LINE SERVICE*- Alternate line service information should be provided to guide riders when part-time service is not running.
- **Provide Updated Subway System Maps in Control Areas and on Platforms.** New maps should be available the day a service change takes place. Maps should be updated when any major service change occurs. For temporary changes, correction stickers should be posted to the surface of the large maps (under the glass panel). For station platforms with a limited platform area, maps should be installed in glassed flat panel structures and attached to station walls at several locations along the platform.

User-Friendly Service Information

- **Develop Uniform Graphic Representations to Differentiate Between Full-and Part-Time Service Lines on All Signage.** Additional visual graphic representations are necessary to differentiate those lines that serve a station other than Monday through Friday between 6:00 am and 11:00 pm. New graphic icons are needed on all station signage to indicate lines that serve the station part-time and late nights “Owl Service”.
- **Define the Diamond Symbol and Use It Consistently.** NYC Transit should more clearly define the rationale behind the diamond symbol, consistently assign its use, and inform the public of the revised definition.
- **Specify Skip Stop Service on All Signage.** At stations where skip stop service is provided, linear strip maps and information with the designated skip stops should be delineated on signage in the control and platform areas.
- **Install Customer Information Centers at All Stations, Where Possible.** Customer Information Centers should be installed consistently in all stations and monitored to ensure the provision of accurate, up-to-date system and service information. In stations with small control areas, a modified version of the Customer Information Centers should be installed. Subway system and neighborhood maps should be included at all locations.

Wayfinding

- **Increase the Number of Platform Edge Signs.** Platform edge signs should be placed at regular intervals along the entire length of the platform.
- **Install Signs To Indicate Passenger Boarding Areas for Short Car Trains.** Signs should be installed on station platforms along the lines, such as, the G to indicate where passengers should stand to board the shorter trains.
- **Install Signs in Mezzanine and Passageway Areas to Aid Station Wayfinding.** Additional signs should be installed and existing signs should be repositioned at key decision points within the station to help riders navigate station areas, locate the appropriate directional platform, and facilitate transfers between lines.
- **Install Temporary Signage During Station Renovations.** Special attention should be given while renovation work is going on to the provision of durable signage to identify changed platforms, closed entrances/ exits, relocated token booths, and long term service diversions.

ADDITIONAL SUBWAY SYSTEM RELATED IMPROVEMENTS

A service issue was identified during the course of the study that was technically beyond the study's defined scope. The following recommendation addresses this issue.

Service

- **Extend J line Service to Broad Street on Weekends.** Weekend service on the J line should be extended to the Broad Street station instead of its current termination point at the Chambers Street station. In its present route designation, the J misses a key transfer point at Fulton Street/ Broadway Nassau Street station, where many customers were observed trying to access the J on weekends.

Introduction

The New York City subway system is one of the most heavily used systems in the world serving approximately 192 million riders annually. It is one of the only systems in the world that operates twenty-four hours a day.

Signage plays a critical role in enabling people to use the system – to determine what line and which stations will get them from one destination to another. Accurate, up-to-date, and clear information about subway service is important, particularly in a complex system like New York City's.

This study is a follow-up to the New York City Transit Riders Council's 1997 Subway Signage Survey. Council members observed a number of incorrect signs; therefore, the decision was made to undertake a signage study again. The 1997 study found that many problems existed.

More than a third (37%) of the entrances surveyed in 1997 had at least one signage deficiency --the most frequent sign problem being incomplete listings of subway lines by letter or number serving a station. Platform signage was a problem at more than a quarter of the platforms (29%), with unclear and confusing information being a common deficiency. Approximately a fifth of the signage in station control (token booth) areas (17%) in 1997 was in some way deficient. A common problem in control areas was the lack of a sign above the turnstiles to indicate the lines serving the station. A quarter of the signage in station mezzanines and passageways (25%) had deficiencies, with missing signs being the most common problem.

The New York City Transit Riders Council's 2002 study reevaluates the state of signage in the subway system to see how it compares to 1997 -- what improvements have been made and what improvements should be made -- to best communicate subway service, transfers, and hours of operation information to riders.

This report describes the results of the 2002 New York City Transit Riders Council survey to determine whether New York City Transit is doing a poor, adequate or excellent job in communicating all service, transfers, and hours of service through their signage program. The report focuses on signage at entrances, control areas, mezzanines and passageways, and platforms at a sample of 106 stations throughout the subway system. The specific goals of this study were:

- to determine if sign information included a correct and adequate listing of all service to and at the station;
- to determine if sign information was clearly stated and easy for riders to use;
- to determine if signs were well placed to guide riders to their desired destinations;
- to identify areas for signage improvement; and

- to identify ways to make subway signage more accurate, clear and consistent.

Recommendations call for accurate, clear, and consistent information as guiding principles for the subway signage program. Specific improvements are identified for signage at entrances, control areas, mezzanines / passageways, and platforms to help facilitate riders ability to use and navigate through the system. Recommendations are also presented for other subway system related improvements.

STUDY METHODOLOGY

This study replicated the methodology used in 1997 to allow comparisons between the two studies.

One hundred and six stations were selected for study out of a total of 419 stations in the system⁶ (See Appendix A for the list of stations). One hundred and two stations were selected according to a Quota Sampling Method. Four stations with pre-identified signage deficiencies were included as additional stations in the sample.

The one hundred and two stations were randomly selected from each of the system's line segments. The sample was constructed so that the number of stations chosen from each line segment is proportional to the number of express and local stations within that segment. The sample of stations is also proportional to the number of stations in the system contained within each borough. The final sample represents approximately twenty-five percent of the system's stations within each borough.⁷

At many stations in the system, free transfers are permitted between different lines. Many of these free transfers are made possible by way of constructed passageways and other structures that connect what were historically individual stations on different lines. As was done in 1997, these station complexes were treated as one unit.⁸ For example, Broadway Junction, Brooklyn was treated as one station, rather than three (one for the J/M/Z lines, one for the A/C lines, and one for the L line). Station complexes were also selected randomly and proportionally according to their distribution within each borough.⁹

<i>Borough</i>	<i>Number of Stations In Subway System (%)</i>	<i>Number of Stations In Sample (%)</i>
Bronx	69 (16%)	17 (16%)
Brooklyn	158 (38%)	38 (36%) ¹⁰
Manhattan	114 (27%)	31 (29%) ¹¹
Queens	78 (19%)	20 (19%)
Total	419 (100%)	106 (100%)

⁶ The 419 stations in the system are reduced from the customary 468 identified by NYC Transit. The reduced number reflects the count of station complexes as one station as well as the omission of four Manhattan stations temporarily closed at the time of the study due to the events of 9/11/02.

⁷ The percentages are: 25% Bronx; 24% Brooklyn; 27% Manhattan; and 26% Queens.

⁸ Based on the above definition of complex stations, two stations were added to the 1997 list of complex stations.

⁹ Station complexes were included in the overall sample for the Bronx and Queens despite the small statistical proportion of complex stations (under 5%) in those boroughs to ensure at least one complex station per borough.

¹⁰ Includes one of the four pre-identified stations that were added to the sample.

¹¹ Includes three of the four pre-identified stations that were added to the sample.

The decision was made to evaluate a new set of randomly selected stations to provide a more diverse yet equally comparable snapshot of the subway system's signage, rather than reevaluate the station sample from 1997. Twenty-seven stations in the 2002 sample overlapped with the stations evaluated in 1997 (See Appendix B for the list of stations).

Station signage was evaluated in four areas of the station: 1) entrances; 2) control areas; 3) mezzanines and passageways; and 4) platforms and tracks.¹² Entrances were defined as the outside and inside stairway areas. Control areas were considered to be those areas around and inclusive of a token booth, if present, prior to going through the turnstile. Mezzanines and passageways were considered to be: a) areas between the entrance and control areas; and b) areas after the turnstile, but before riders reach the platform. These areas included walkways or intermediate levels customers need to walk through to reach a platform. Platform and tracks were identified as the passenger waiting areas between and along the area where trains pull into the station.

The survey forms used in the 2002 study were similar to those used in 1997. The 1997 forms were reformatted and some questions were reworded. A few evaluative elements were added to aid the data analysis process, to reflect changes in the system since 1997, and to expand the scope of the survey. Additions to the forms included:

- At Entrances: a question to determine if signage at entrances with High Entrance / Exit Turnstiles indicated the need for a MetroCard and listed access hours;
- At Control Areas: questions to determine the presence of updated subway system and neighborhood maps;
- At Mezzanines and Passageways: a question about street name and corner direction information on exit signs; and
- On Platforms: questions about the presence of station name signs; express and local track identification; the placement of transfer signs; the content of exit sign information; and the presence of an updated subway system map.

Evaluative elements added to the 2002 survey are noted in the statistical tables.

A total of 304 entrances, 154 control areas, 101 mezzanine and passageway areas, and 256 platforms were evaluated in the 2002 study. NYCTRC members and staff completed surveys of all stations between late March and early June 2002. Copies of the survey forms are provided in Appendix C.

¹² The 1997 study categorized platforms and tracks as separate areas.

FINDINGS

ENTRANCES

Signage was evaluated at 304 entrances for the presence of signs, the provision of complete and accurate information, user-friendliness, sign condition, and specific entrance access and use information. In most cases, all entrances to a station were evaluated. In some instances, entrances were not open during the hours the surveyor was at the station or closed due to reconstruction. A small number of exit-only stairways were also evaluated.

Entrances were evaluated for:

- The presence and accurate use of a colored globe: green for a full-time entrance leading to a full-time token booth, red for all other entrances.
- The presence of a sign with the station name, correct and adequate listing of all lines serving the station identified by letter or number, and the direction of travel (if necessary).
- The clarity of information presented on the sign and ease of use for riders.
- Obstructions or vandalism on the sign surface.
- At part-time entrances: a sign listing the hours that the entrance is open.
- At entrances with a part time token booth: a sign listing the hours when the booth is open.
- At entrances with only High Entrance/ Exit Turnstiles: a sign indicating that it is a MetroCard entrance and listing the hours of access.

The results for entrance signage are summarized in Table 1. Station entrances were well served by the presence of an entrance sign (97%) with a listing of lines (97%) and the station name (96%). The condition of the entrance signage was excellent, with only three percent of the signs showing forms of vandalism. Entrance hours were also listed for non twenty-four hour entrances (94%).

Table 1: Entrance Signage Results

Types of Deficiencies at Entrances	2002 (304 entrances evaluated)
	Percent with Deficiencies
Missing globe	22%
Incorrect globe color	8%
Missing entry signs	3%
No lines listed at all	3%*
Missing station name	4%
Missing or incorrect lines listed by letter/ Number and direction of travel	10%
Unclear, confusing information	7%
Sign obstructed	8%
Sign vandalized/ defaced	3%
Booth hours not listed for non 24hr token booth	8%
Entrance hours not listed for non 24hr entrances	6%
Sign does not indicate MetroCard entrance/ hrs (if HEET is present)	10%*

* Not evaluated in 1997.

More than half (54%) of the entrances evaluated had at least one signage problem. The most frequent problem was the lack of entrance globes to indicate whether access to the entrance was full-time or restricted during certain hours (22%). Out of the 304 entrances evaluated, 67 entrances were missing globes at 33 stations. Many of these problem entrances are at elevated stations and at entrances located within buildings. These findings are consistent with those found in 1997. A typical example of the missing globe problem was found at the 167th Street station on the 4 line.



167th Street station, Bronx (4). No Globes are present at this elevated station entrance.

Where globes were present, eight percent were found to have the incorrect color --improperly indicating the hours of the particular entrance. Globes were found to be present, but incorrect at 24 entrances at 16 stations. At the Dyckman Street station on the A line, two exit-only stairways were each found to have two different colored globes --one green and one red.



Dyckman Street station, Manhattan (A). An exit-only stairway with two globes-- one green, one red.

Inaccurate and inadequate line and service information on entrance signage such as missing or incorrect lines (10%), unclear or confusing information (7%), and obstructed signs (8%) were significant problems. Entrance signage was most deficient in the omission of a diamond line, the inclusion of a line that no longer serves the station, or missing or incomplete direction of travel by borough.



Canal Street station, Manhattan (N/R/Q/Q Diamond/W/J/M/Z/6). Entrance sign omits the Q Diamond line.

At the President Street station on the 2 and 5 lines, two separate entrances to the station represented the same lines in a different manner.



President Street station, Brooklyn (2/5). Two separate entrances list the same 5 line service differently – as a circle and a diamond.

Signage found to be confusing, unclear, and not user-friendly (7%) was often due to giving equal weight to all the lines serving the station, even if they serve the station on a part time basis, or only late nights. This was found at the 75th Avenue station in Queens on the E and F lines where the E line is listed on the entrance sign, but only stops at the station after the pm rush. Another example is at the 75th Street / Elderts Lane station on the J/Z lines, where the Z line is listed on the entrance sign, but only stops at the station during rush hours.



75th Avenue station, Queens (E/F). Both lines are given equal weight, but the E only serves the station nights and weekends.

Entrance signage was also misleading when information implied that both directions of travel were within easy access, when one travel direction required walking through a station underpass or overpass.

On many entrance signs, the subway line letters or numbers were often partially obstructed from view (8%) by metal advertising structures. Such was the case at the 5th Avenue/ 53rd Street station.



5th Avenue/ 53rd Street station, Manhattan (E/V). E line is obstructed from view by an advertising bracket.

Other obstructions included commercial dumpsters, advertising signs, and other objects.



Classon Avenue station, Brooklyn (G). Dumpster obstructs listing of lines at entrance.



79th Street station, Manhattan (1/2). Newsboxes obstruct listing of lines at entrance.

At entrances with high entrance/ exit turnstiles, signage frequently did not indicate the need for a MetroCard and the hours of access (10%). HEETs were present at 29% of the entrances evaluated.

A number of signs at entrances with a part time token booth did not list the hours the booth was open (8%). In some cases, hours were not listed because a full time token booth was accessible via a passageway.

A small number of entrances were missing station name and entrance signs altogether (4%). These entrances appeared neglected, and unsafe, such as the case at the DeKalb Avenue station.



DeKalb Avenue station, Brooklyn (M/N/R/Q/Q Diamond). While this part-time entrance provides hour and MetroCard information, it lacks a station name sign with lines serving the station.

Results by Borough

The results for station signage by borough are shown in Table 2. Borough results were calculated to compare the relative condition of entrance signage within each borough as a distinct entity. This allows for a comparison of signage condition between boroughs to determine variations in signage treatment. This type of comparison is possible because the number and distribution of stations by borough in the study sample are proportional to that of the system as a whole. The number of stations evaluated in each borough is approximately twenty-five percent of the stations in the borough.

The Bronx had the highest percentage of entrance signage deficiencies, with 78 percent of the entrances evaluated (21 out of 27) having at least one deficiency. Manhattan was next, with 56 percent of the evaluated entrances

being deficient (60 out of 108), followed by Brooklyn with 52 percent (57 out of 109), and Queens with 49 percent (26 out of 53).

Table 2: Entrance Signage Deficiencies by Borough

Deficient Signage Evaluated by Borough	Bronx	Brooklyn	Manhattan	Queens
Entrances with Signage Deficiencies	78%	56%	52%	49%

The high percentage of entrance deficiencies in the Bronx was due to large numbers of missing globes (67%). Queens had the next highest percentage of station entrances with missing globes (26%). Brooklyn and Manhattan had higher percentages of stations with incorrect globe colors: 10% (at 7 stations) and 9% (at 5 stations), respectively.

Manhattan had a higher percentage of entrance signs with incorrect or inadequate line letter or number and direction of travel information listed (13%), due to the frequent omission of the diamond lines, followed by the Bronx (10%). Brooklyn had a higher percentage of stations with signage that was unclear, confusing, or not user-friendly (9%).

CONTROL AREAS

Signage was evaluated at 154 control areas for the presence of specific signs and maps, the provision of complete and accurate information, user-friendliness, sign condition, and sign placement. Control areas that were not accessible at the time the survey was conducted were not evaluated, nor were exit-only control areas.

Control Areas were evaluated for:

- The presence of a turnstile sign with all lines serving the station correctly and adequately identified by letter or number, and the direction of travel.
- The clarity of information presented on the turnstile sign and ease of use for riders.
- Obstructions or vandalism on the turnstile sign surface.
- Adequate placement of the turnstile sign to guide riders.
- The presence of an updated MTA subway system map with the current station identified.
- The presence of a neighborhood map.

The results for control area signage are shown in Table 3. Control areas were well served by the presence of turnstile signs (95%), which were conveniently placed to guide riders (95%). The condition of the turnstile signs was excellent, with only three percent of the signs showing forms of vandalism.

Almost three-quarters of the control areas surveyed had at least one type of signage deficiency (71%). The most frequent problems in control areas were the lack of a neighborhood map (42%) and an updated MTA subway system map (37%). Many stations did not include neighborhood maps in the control area at all. While MTA subway system maps were present in most stations, the maps were dated December 2001.¹³ Although these maps are the most recent large scale maps printed by the MTA, they do not indicate the re-opening of the World Trade Center Station on the E line or the service changes on the W line in Astoria, which occurred prior to the beginning of this study.

¹³ For evaluative purposes, the December dated maps were considered current and up-to-date.

Table 3: Control Area Signage Results

Types of Deficiencies in Control Areas	2002 (154 total)
	Percent with Deficiencies
Turnstile signs missing	5%
All lines not listed by letter/ number and direction	15%
Unclear, confusing information	12%
Sign obstructed	7%
Sign vandalized/ defaced	3%
Poor sign placement	5%
Lack of updated subway system map with current station identified	37%*
Lack of neighborhood map	42%*

* Not evaluated in 1997.

Turnstile signs with inaccurate or inadequate line and service information were also found to be a problem (15%). Many of the turnstile signs omit text identifying the travel direction according to borough. In some cases, more than one borough should have been identified. In other cases, signs failed to indicate a diamond line serving the station.



66th Street/ Lincoln Center station, Manhattan (1/2). Although the platform edge sign is visible, the turnstile sign does not indicate that entry is for Downtown and Brooklyn only.

Turnstile signs that provide partial or inadequate information often lead to unclear information or rider confusion about subway service. This was found to be the case with 12 percent of the control areas evaluated. In many control areas, confusion was caused by the lack of direction of service indicated on turnstile signs.

Obstructed turnstile signs were an issue in some of the control areas (7%). Obstructions were often the result of the sign being poorly placed or juxtaposed to other control area informational signs.



36th Avenue station, Queens (N/W). The turnstile sign is blocked by the High Entrance Exit Turnstile, light fixtures, and pipes.

Results by Borough

The results for control area signage by borough are shown in Table 4. The percentages of control area deficiencies by borough are high in all the boroughs, reflecting the levels of problems with the lack of neighborhood maps and updated subway maps with appropriate station identification.

Brooklyn had the highest percentage of control area signage deficiencies, with 75 percent of the evaluated control areas (39 out of 52) having at least one deficiency, while the Bronx had the lowest percentage of deficiencies, with 57 percent (12 out of 21). Queens and Manhattan control area signage deficiencies were only slightly lower than those of Brooklyn: Queens with 73 percent (19 out of 26) and Manhattan with 71 percent (39 out of 55).

Table 4: Control Area Signage Deficiencies by Borough

Deficient Signage Evaluated by Borough	Brooklyn	Queens	Manhattan	Bronx
Control Areas with Signage Deficiencies	75%	73%	71%	57%

All the boroughs had fairly high percentages of deficiencies related to neighborhood and subway system maps. Manhattan and Brooklyn had higher

numbers of control areas with no neighborhood maps: 46 percent for Manhattan and 44 percent for Brooklyn. Of the control areas evaluated in Queens, 39 percent lacked neighborhood maps, as did 33 percent of those evaluated in the Bronx.

Higher numbers of missing or outdated subway system maps were found in Manhattan (40%) and Queens (39%), followed by Brooklyn (37%) and the Bronx (29%).

Brooklyn turnstile signs were most deficient of all the boroughs with incorrect or inadequate line and direction of travel information (21%) as well as lack of clarity and ease of use for riders (27%).

Queens station control areas had the highest percentage of obstructed turnstile signs (23%).

MEZZANINES AND PASSAGEWAYS

Signage was evaluated in 101 mezzanine and passageway areas in 77 stations. Mezzanine and passageway areas were located between the entrance and control areas as well as after the turnstile, but before the platform. These areas were examined for the presence of specific signs, the provision of complete and accurate information, user-friendliness, sign condition, and sign placement. Mezzanine and passageway areas were not evaluated in stations where entrances opened directly into control areas or where platforms were accessible a short distance from the turnstile.

Mezzanines and Passageways were evaluated for:

- The presence of exit signs at exits to the street with the above street corner direction and street name.
- At part-time exits: the listing of open hours.
- The presence of signs at platform stairs with all lines serving the station correctly and adequately identified by letter or number, and the direction of travel.
- The presence of signs indicating connections with bus routes.
- The presence of directional signs for transfer between lines, where applicable.
- Unclear, confusing information.
- Obstructions or vandalism on sign surfaces.
- Adequate placement of signs to guide riders.

The results for mezzanine and passageway areas are shown in Table 5. Mezzanines and passageways were well served by the presence of directional signage for transfers between lines (96%). The condition of the signs was excellent, with very little vandalism (1%).

Over two-thirds of the areas evaluated were found to have some form of signage deficiency (68%). The most frequent deficiency was exit signs with missing street corner direction and street name information (40%). While the MTA has a policy to provide this information “at large or busy street intersections with multiple exits...”,¹⁴ it is not provided consistently. Related to this problem was the lack of signs at all street exits (9%) and the lack of hours listed on part-time exit signs (6%).

¹⁴ MTA Sign Manual (1995), p.1.11.



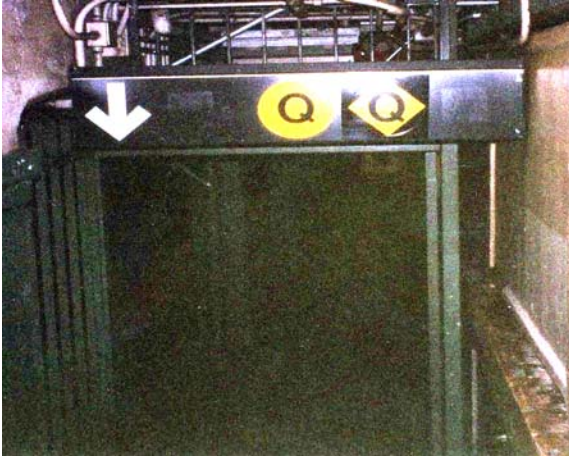
66th Street/ Lincoln Center station, Manhattan (1/2). Exit sign omits street corner direction.

Table 5: Mezzanine and Passageway Signage Results

Types of Deficiencies in Mezzanines and Passageways	2002 (101 total areas)
	Percent with Deficiencies
Missing street exit signs	9%
Hours not listed for part-time exits	6%
Missing exit sign information -street name/ corner direction	40%*
Incorrect line/letter/ number/ direction for platform stair signs	22%
Lack of directional signage for transfers	4%
Unclear, confusing information	20%
Obstructed signs	8%
Vandalized/ defaced signs	1%
Poor sign placement	18%

* Not evaluated in 1997.

Platform stair signs with inaccurate or inadequate line and service information were also identified as an issue (22%). Similar to the problems identified with turnstile signage, many mezzanine signs listed the wrong borough direction or were missing the listing of a line, such as, the Q diamond. Other key deficiencies included signs that lacked the borough direction of travel; signs that indicated the borough, but lacked the specific lines; or a lack of platform stair signage altogether. Examples of platform stair signs with these types of deficiencies were found at the Prospect Park, and Carroll Street stations.



Prospect Park station, Brooklyn (Q/S). No travel direction is indicated on this platform stair sign.



Carroll Street station, Brooklyn (F/G). Inaccurate travel information - the G line does not go to Coney Island.



Canal Street station, Manhattan (J/M/Z/N/Q/Q Diamond/R/W/6). Transfer sign does not list Q Diamond line.

Another significant issue was unclear, confusing, non user-friendly signage (20%)-- an outgrowth of the above-mentioned problems with exit, platform stair signs. Some transfer signs neglected to indicate that walking distances between lines were significant, such as, at the 4th Avenue/ 9th Street station in Brooklyn, where the transfer to the Brooklyn bound F from the Brooklyn bound M/N/R platform requires a long and involved journey. Other signs neglected to indicate the direction of travel and line information. Good examples of these were at the DeKalb and Fulton Street/ Broadway Nassau stations.



DeKalb Avenue station, Brooklyn (M/N/Q/R). Mezzanine sign does not indicate direction of travel or line information



Fulton/ Broadway Nassau Street station, Manhattan (A/C/J/M/Z/1/2/4/5). Exit/ Transfer sign does not list open hours at stair or prior to stair.

Sign placement was also identified as a problem (18%). Problems included not enough signage provided to guide riders; obstructed signs (8%) placed too high or not visible from certain vantage points; or signs not placed appropriately at key decision points.



Fulton/ Broadway Nassau Street station, Manhattan (A/C/J/M/Z/1/2/4/5). TVM machine is blocking an exit sign.



Beverly Road station, Brooklyn (2/5). Not only is the exit sign obstructed by the High Entrance Exit Turnstile, but Beverly Road is spelled incorrectly.

While the 1995 MTA sign manual indicates that appropriate "...bus or train information should be added... at stations where passengers customarily transfer to buses or commuter rail to continue their trips...",¹⁵ the MTA has no current

¹⁵ MTA Sign Manual (1995), p.1.11.

policy to identify the stations where these signs should be installed. Bus connection signs were originally instituted to assist passengers in transfers when transfers between the subway and bus required an additional fare. This prior policy resulted in sporadic bus connection signage at stations throughout the system.

Of the 106 stations in the study, six stations were indicated on the MTA subway map as major bus transfer centers. Observers found only four of these six stations to contain bus connection transfer signs.

Results by Borough

The results for mezzanine and passageway signage by borough are shown in Table 6. Percentages of signage deficiencies in mezzanine and passageway areas were generally higher than those found in the entrance and control areas.

Queens had the highest percentage of mezzanine and passageway signage deficiencies with 88 percent of the mezzanines and passageways (15 out of 17) having one or more, followed by the Bronx with 79 percent (11 out of 14). Brooklyn was next, with 71 percent of the mezzanines and passageways (29 out of 41), followed by Manhattan with 17 percent (14 out of 26).

Table 6: Mezzanine and Passageway Signage Results by Borough

Deficient Signage Evaluated by Borough	Queens	Bronx	Brooklyn	Manhattan
Mezzanines / Passageways with Signage Deficiencies	88%	79%	71%	54%

In Queens, the percentage of signage problems is reflective of particularly high numbers of exit signs with missing street corner direction and street name information (71%); and platform signs with incorrect information (29%).

Bronx mezzanine and passageway areas were notable in deficiencies with poor sign placement (36%); exit signs with missing street corner direction and street name information (29%); and platform stair signs with incorrect information (29%).

Brooklyn had high deficiencies on exit signs with missing street corner direction and street name information (41%); unclear, confusing signage (28%); and platform stair signs with incorrect information (19%).

Finally, Manhattan mezzanine and passageways had deficiencies with exit signs with missing street corner direction and street name information (29%); platform

stair signs with incorrect information (19%); and part-time exit signs with no hours listed (15%).

PLATFORMS

Platform signage was evaluated at 256 platforms; 67% of which were local and 19% were express. Fourteen percent of the tracks were not identified.

Signage was evaluated for the presence of specific signs. Signs were examined for complete and accurate information and evaluated as to their placement to best serve riders. Platform edge signs were additionally scrutinized for user-friendliness and sign condition.

Platforms were evaluated for:

- The presence of station name, platform edge signs, directional transfer and exit signs.
- The identification of express and local tracks, if applicable.
- Adequate placement of transfer signs to guide riders.
- An updated MTA subway system map.
- For exit signs: exit location, direction and hours open, if not 24 hours.
- For platform edge signs:
 - Correct and adequate listing of all lines serving the station by the direction of travel, the letter or number, and the destinations for each line.
 - If service is not full time: a listing of the hours of operation.
 - If service is not 24 hour: an alternate line indicated for other hours of travel.
 - Correct listing of transfer lines, if applicable.
 - Obstructions or vandalism of sign surface.
 - Clarity of information presented and the ease of use for riders.
 - Adequate sign placement to guide riders.

The results for platforms and tracks are shown in Tables 7 and 8. Platform signage was found to be good with station name signs, exit signs, and the presence and placement of directional signs for transfers to guide riders. Station name signs were present at 98 percent of the platforms surveyed, and exit signs were present at 99 percent of the platforms. For platform signage directing riders to transfer lines, signs were present (95%) and considered well placed to guide riders (98%).

Platform edge signage was present at 97 percent of the tracks evaluated, with only two percent of the signs showing vandalism. Edge signs were also found to provide fairly complete listings of all lines serving the station by letter, number and borough direction (95%).

Over three-quarters of the platforms had some form of sign deficiency (85%).

Sixty-seven percent of the platforms had general signage deficiencies, while another 69 percent of the platforms had deficiencies related to platform edge signs.

General Signage

The most frequent problem was that platforms were missing or lacking an updated subway system map (49%). As was the situation in the control areas, the MTA subway system maps on the platforms were dated December 2001 and did not indicate the re-opening of a station or change in service that took place in 2002.

Table 7: Platform-General Signage Results

Types of General Signage Deficiencies on Platforms	2002 (256 platforms)
	Percent with Deficiencies
Missing station name signs	2%
Lack of express/local tracks identification (if applicable)	7%
Lack of directional signs for transfers	5%
Poor placement of transfer signs to guide riders	2%
Missing exit signs	1%
Missing exit sign information –location, direction, and open hours	24%
Missing or outdated subway system map	49%

At narrow platforms with no room for a freestanding bulletin board, more recent foldout maps, dated January 2002, were observed taped to advertisement panels on station walls. These maps, while more up-to-date, were unprotected from graffiti and had been put up on an ad-hoc basis by individual station personnel. Given their small size and placement in spaces reserved for advertisements (they were also attached to the wall in a similar manner), these maps were not as visible or effective in guiding riders as they should be.

Significant deficiencies were also found with the information provided on exit signs. Twenty-four percent of the platforms did not list the hours of operation for non twenty-four hour exits and, in a few instances, did not provide needed information about exit location.

A smaller percentage of platforms lacked track identification signs, where appropriate, to direct riders to express and local tracks (7%). These types of signs, such as the ones provided at the 72nd Street Station on the 1/2/3 lines, are helpful to riders.

Some problems were found with platform directional signs with transfer information (5%). In some cases signs provided incorrect information, while in other cases, signs were damaged.



Fulton Street/ Broadway Nassau Street station, Manhattan (A/C/J/M/Z/1/2/4/5). The 2 line is listed twice on this sign. The 1 line, which should be listed here, is omitted.

Edge Signs

The most frequent problem identified with platform edge signage was the inadequacy of placement along the length of the platform (44%). While the majority of platform edge signs are in compliance with the guidelines put forth in the 1995 Sign Manual, which specifies locating the edge signs "... parallel to the track near the foot (or head) of a staircase or escalator leading to the platform...",¹⁶ many platforms end up having only two signs: one at either end. This leaves long stretches of the platform without specific line service information; not convenient, nor informative, for riders who neglect to pay attention to signage posted directly as they descend the stairs or for those who find themselves transferring mid-platform between trains with different tracks on a shared platform. The study also identified many platforms with the presence of only one sign.

The guidelines also specify that platform edge signs should be placed "...at entrances leading directly onto the platform in such areas which use high entrance turnstiles... (and) repeated at all stairs leading to the platform." As was discussed in earlier sections of this report, the placement of these signs at entrances and at platform stairs in mezzanine areas was found to be inconsistent.

¹⁶ MTA Sign Manual (1995), p.1.13.

In some cases, signs were obstructed (7%) by structures along the platform edge such as florescent light fixtures or motor person and conductor indicators.

Table 8: Platform-Edge Sign Results

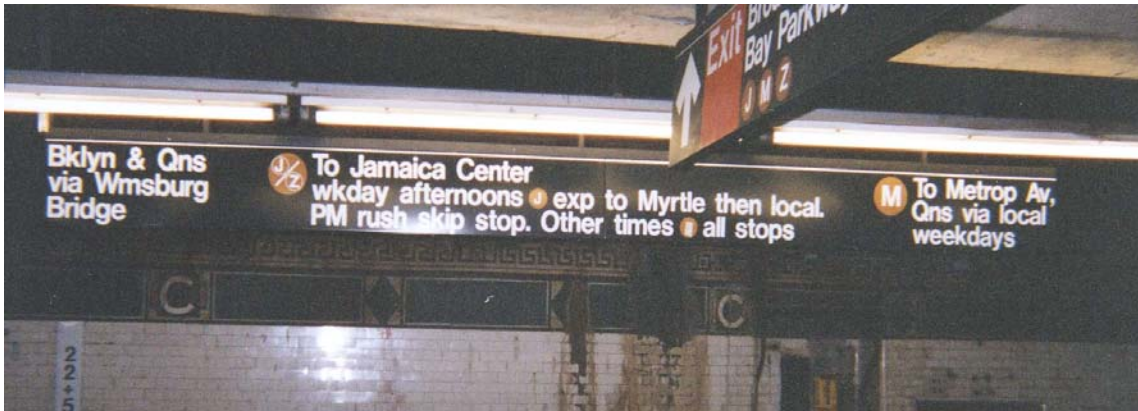
Types of Edge Sign Deficiencies on Platforms	2002 (256 platforms)
	<i>Percent with Deficiencies</i>
Tracks with edge sign missing	3%
All lines not listed by letter/ number and direction	5%
All destinations not listed	11%
Incorrect hours of operation listed	8%
Lack of alternate line indicated for non 24hr line/ service	15%
Incorrect transfer lines indicated	7%
Unclear, confusing information.	25%
Sign obstructed	7%
Sign vandalized/ defaced	2%
Poor sign placement	44%

Another key problem identified with platform edge signage was that the information was unclear or confusing to riders (25%). One key reason for this is the lack of an hourly definition given to the terms: rush hours, middays, evenings, weekends, and late nights. As was noted in detail in the 1997 study, exact hours of service can be critical for riders.¹⁷ There is also a general lack of information provided about skip stop service. Riders unfamiliar with the system do not know that certain lines are skip stop service only.



Fulton Street/ Broadway Nassau Street station, Manhattan (A/C/J/M/Z/1/2/4/5). Lack of hourly definition given to weekday afternoons and pm rush makes service information confusing.

¹⁷ For a detailed discussion of this, see NYCTRC Subway Signage Study (1997), pp. 13-14.



Canal Street station, Manhattan (J/M/Z/N/Q/Q Diamond/R/W/6). No description of Z service or skip stop service is provided on this platform edge sign.

Other issues contributing to rider confusion of platform edge signs identified by the signage evaluations were: inaccurate and incomplete information about alternate lines for riders to use during periods when part-time lines are not running (15%), missing, incomplete or incorrect borough direction or destination information (11%), incorrect hours of operation, when listed (8%), and transfer lines (7%).



72nd Street station, Manhattan (1/2/3). No alternate line is listed for riders to use when the 3 line is not running.



Carroll Street station, Brooklyn (F/G). Misleading travel information. This sign omits Brooklyn as a direction.



Canal Street station, Manhattan (J/M/Z/N/Q/Q Diamond/R/W/6). No alternate line information is provided for service to 9th Ave. or Bay Parkway on weekends.



Fulton Street/ Broadway Nassau Street station, Manhattan (A/C/J/M/Z/1/2/4/5). Incorrect end destination information. The 4 Line does not run to New Lots Avenue.



President Street station, Brooklyn (left); Beverly Road station (right) on the 2/5 lines. Inconsistent end destination information. Same line, inconsistent platform edge signs at two different stations.



Fulton/ Broadway Nassau Street station, Manhattan (A/C/J/M/Z/1/2/4/5). Description indicates that service runs on weekdays (left), but attached description on same sign (right) states that there is no weekday service. Sign should state "weekends no service at this platform."

Surveyor observations revealed additional problems that contribute to the lack of clarity of platform edge signs. These include:

- Inconsistent wording, word order, and the amount of text required to read;
- The inability to differentiate between lines that provide full-and part-time service. For part time service lines, it was difficult to determine the exact times and stations served; and
- The lack of specific information provided about the stops included in skip-stop service.

Results by Borough

The results for platform general signage and edge signage by borough are shown in Tables 9 and 10.

General Signage

General platform signage deficiencies were highest in Brooklyn with 87 percent (75 out of 86), followed by Queens with 76 percent (32 out of 42). Manhattan platform signage fared somewhat better, with 60 percent (51 out of 85) of the platforms having some deficiency. Signage in the Bronx had the least deficiencies with less than half of the platforms, 39 percent, (14 out of 36) deemed problematic.

Table 9: Platform Signage Results by Borough (Non Platform Edge)

Deficient Signage Evaluated by Borough	Brooklyn	Queens	Manhattan	Bronx
Platforms with General Signage Deficiencies	87%	76%	60%	39%

A key issue for all boroughs was the lack of an updated subway map on the platform: Brooklyn had the highest percentage of platforms with missing or outdated subway maps (62%), followed by Queens (56%), Manhattan (44%), and the Bronx (33%).

Another issue for platforms in three of the boroughs was exit signs with missing exit location, direction, and open hours if part-time. Brooklyn had the highest percentage (33%), followed by Queens (24 %), and Manhattan (25%). As was mentioned previously, most of the problems with these signs were related to the lack of hours listed for part-time entrances.

In Brooklyn, a third issue was the lack of identification of express and local tracks, where applicable (17%).

Edge Signs

The results for platform edge signs have Brooklyn, once again, with the highest percentage of deficiencies. Seventy-eight percent of the platforms (66 out of 85) had one or more problems. Manhattan was next with 73 percent of the platforms (62 out of 85), followed by Queens with 69 percent of the platforms (29 out of 42). The Bronx had the fewest problems with 50 percent of the platforms (19 out of 38).

Table 10: Platform Edge Sign Results by Borough

Deficient Signage Evaluated by Borough	Brooklyn	Manhattan	Queens	Bronx
Platforms with Platform Edge Sign Deficiencies	78%	73%	69%	50%

Poor placement of platform edge signs and signs with unclear or confusing information for riders were the most significant issues. In Brooklyn stations, poor placement of platform edge signage pervaded 52 percent of the platforms, while unclear or not user-friendly signage was a problem at 23 percent of the platforms.

Manhattan platform edge signs had fewer problems with sign placement than Brooklyn (44%), but more with unclear and confusing information (37%). In Queens, poor edge sign placement was present at 42 percent of the platforms, and unclear, confusing signs were a problem at 21 percent of the platforms evaluated. The Bronx had poor sign placement at 37 percent of station platforms.

Lack of alternate line listed for non twenty-four hour line or service was a problem with platform edge signage in Manhattan (28%) more than in the other boroughs, most likely due to multiple numbers of lines often serving one station complex.

Incidences of incorrect destination listings and obstructed edge signs were slightly higher on platform edge signs in Manhattan stations than in Brooklyn. Incorrect destination edge sign listings and sign obstructions were 13 percent and 11 percent, respectively, in Manhattan, compared to 12 percent and 10 percent deficiencies in Brooklyn stations.

Manhattan had additional platform edge sign deficiencies in the listing of lines for transfer (13%) and hours of operation (12%).

1997 AND 2002 COMPARISON

RESULTS BY DEFICIENCY TYPE¹⁸

Results from the 2002 and 1997 studies show that while some signage improvements have been made since 1997, signage deficiencies have generally worsened. Entrance, control, mezzanine/ passageway, and platform area signage deficiencies from 1997 and 2002 are compared in Tables 11-16 (See Appendix D for additional Tables 21-24).

Signage Improvements Since 1997

Less Vandalism. Vandalism decreased most significantly on platform (-5%) and mezzanine/ passageway signage (-2%) since 1997.

More Turnstile Signs. More turnstile signs have been installed since 1997 – a decrease in missing signs (-3%).

More Listings of Part-Time Entrance Hours. More part-time entrances provide signage information about open hours in 2002 compared to 1997—a decrease in missing entrance hour information (-3%).

Table 11. Signage Improvements 1997-2002

Type of Sign Deficiency/ Station Area	1997	2002	Percent Change
Vandalism			
<i>Platforms</i>	7%	2%	-5%
<i>Mezzanines/ Passageways</i>	3%	1%	-2%
Lack of Turnstile Signs	8%	5%	-3%
Lack of Part-Time Entrance Hours	9%	6%	-3%

Signage Deterioration Since 1997

Across Multiple Areas

Missing / Incorrect Line and Direction of Travel Information. Deficiencies increased the most in mezzanines and passageways (20%),¹⁹ followed by control areas (+11%), platform edge signs (+5%), and entrances (+3%).

¹⁸ 1997 percentages in tables have been rounded up to the nearest whole number in the text for the purposes of clarity.

¹⁹ This category was defined somewhat differently in 1997. See Appendix D Table 23 for details.

Table 12. Missing/ Incorrect Line and Direction of Travel 1997-2002

Type of Sign Deficiency/ Station Area	1997	2002	Percent Change
Missing/Incorrect Line and Direction of Travel Information			
Mezzanines/ Passageways	5%	25%	+20%
Control Areas	4%	15%	+11%
Platforms	0%	5%	+5%
Entrances	7%	10%	+3%

Unclear, Confusing Information. Deficiencies were highest on mezzanine / passageway signage (+14%), followed by platform edge signs (+10%), and control area turnstile signs (+7%). Unclear, confusing information on entrance signage increased to a lesser degree (+2%).

Table 13. Unclear, Confusing Information 1997-2002

Type of Sign Deficiency/ Station Area	1997	2002	Percent Change
Unclear, Confusing Information			
Mezzanines/ Passageways	8%	22%	+14%
Platforms	15%	25%	+10%
Control Areas	5%	12%	+7%
Entrances	5%	7%	+2%

Obstructed Signs. The presence of obstructed signs increased in all areas of the station - from five to nine percentage points. Obstructed signs increased the most in mezzanines and passageways (+9%), followed by entrances (+7%), control areas (+5%), and platforms (+5%).

Table 14. Obstructed Signs 1997-2002

Type of Sign Deficiency/ Station Area	1997	2002	Percent Change
Obstructed Signs			
Mezzanines/ Passageways	1%	10%	+9%
Entrances	1%	8%	+7%
Control Areas	2%	7%	+5%
Platforms	2%	7%	+5%

Poor Sign Placement. While sign placement policies have not changed since 1997, sign placement was perhaps more scrutinized in 2002. Placement of signs was worst for platform edge signs (+40%), followed by mezzanines and passageways (+19%), and turnstile signs in control areas (+5%). While gains were made in 2002 with the provision of more turnstile signs, these gains were offset by increased deficiencies in sign placement.

Table 15. Poor Sign Placement 1997-2002

Type of Sign Deficiency/ Station Area	1997	2002	Percent Change
Poor Sign Placement			
<i>Platforms</i>	4%	44%	+40%
<i>Mezzanines/ Passageways</i>	2%	21%	+19%
<i>Control Areas</i>	0%	5%	+5%

Vandalized Signs. While not a problem in 1997, vandalism was found at three percent of the turnstile signs evaluated in 2002. Vandalism worsened slightly at entrances in 2002 (+1%).

Table 16. Vandalized Signs 1997-2002

Type of Sign Deficiency/ Station Area	1997	2002	Percent Change
Vandalized Signs			
<i>Control Areas</i>	0%	3%	+3%
<i>Entrances</i>	2%	3%	+1%

Entrance Area Specific

Missing Globes. Missing globes was the most frequent problem identified with entrances in 1997 and 2002. The problem has remained constant: 22 percent of the entrances evaluated in 1997 were missing globes compared to the same percentage in 2002.²⁰

Incorrect Globe Colors. The problem of incorrect globes at entrances increased by six percentage points since 1997.²¹

Missing Station Name at Entrances. Missing station name signs at entrances increased by three percentage points since 1997.²²

Missing Part-Time Token Booth Hours at Entrances. While the listing of part-time entrance hours improved, the listing of part-time token booth hours worsened (+2%).²³

²⁰ See Appendix D, Table 21.

²¹ Ibid.

²² Ibid.

²³ Ibid.

Platform Area Specific

Incomplete Destination Listings on Platform Edge Signs. Incomplete listings of destinations on platform edge signs increased in 2002 (+9%). In 2002, inconsistencies in the listings of destinations were also found between platform edge signs at different stations along the same line.²⁴

Missing Platform Edge Signs. The occurrence of missing platform edge signs increased slightly in 2002 (+2%).²⁵

²⁴ See Appendix D, Table 24.

²⁵ Ibid.

RESULTS BY BOROUGH²⁶

Signage deficiencies by borough from 1997 and 2002 are shown in Tables 17-20. Improvements have been made in the signage in mezzanines and passageways in Manhattan and Queens. Signage in all other areas has worsened significantly in 2002.

Entrances

Signage Improvements Since 1997: None

Signage Deterioration Since 1997: Entrance signage deficiencies worsened between one and 19 percentage points since 1997. In 1997, a third of the entrances sampled in Brooklyn, Manhattan and Queens had some type of signage deficiency compared to half of the entrances sampled in 2002. In the Bronx, signage deficiencies remained constant since 1997, with three-quarters of the entrances sampled having some type of deficiency.

- **Manhattan** – Entrance signage deficiencies increased the most at Manhattan entrances (+19%), from a third of entrances evaluated in 1997 (31%) to half of those evaluated in 2002 (50%).
- **Brooklyn** – Entrance signage deficiencies increased the next highest amount in Brooklyn (+18%), from a third in 1997 (30%) to just under a half in 2002 (48%).
- **Queens** – Entrance signage deficiencies increased in Queens (+15%), from a third in 1997 (32%) to nearly half of those entrances evaluated in 2002 (47%).
- **Bronx** – Entrance signage deficiencies increased minimally in the Bronx (+1%), from 77 percent in 1997 to 78 percent in 2002.

Table 17. Entrance Signage Deficiencies by Borough –1997 and 2002*

Borough	1997	2002**	Percent Change
Manhattan	31.4%	50%	+19%
Brooklyn	30.4%	48%	+18%
Queens	32.3%	47%	+15%
Bronx	76.6%	78%	+1%

* Statistics represent the percentage of entrances that have sign deficiencies out of all the entrances evaluated in a particular borough.

** Includes only those deficiencies evaluated in 1997.

²⁶ 1997 percentages in tables have been rounded up to the nearest whole number in the text for the purposes of clarity.

Control Areas

Signage Improvements Since 1997: None

Signage Deterioration Since 1997: Control area signage deficiencies were between seven and 23 percentage points worse since 1997. In 1997, signage deficiencies were found in less than 25 percent of the control areas evaluated in all boroughs compared to over 25 percent in 2002. Higher increases were found in Brooklyn and Queens stations.

- **Brooklyn** – Control area signage deficiencies increased in Brooklyn (+23%), from 14 percent in 1997 to 37 percent in 2002.
- **Queens** - Control area signage deficiencies increased in Queens (+22%), from 17 percent in 1997 to 39 percent in 2002.
- **Manhattan** - Control area signage deficiencies increased in Manhattan (+9%), from 18 percent in 1997 to 27 percent in 2002.
- **Bronx** – Control area signage deficiencies increased in the Bronx (+7%), from 22 percent in 1997 to 29 percent in 2002.

Table 18. Control Area Signage Deficiencies by Borough – 1997 and 2002*

Borough	1997	2002**	Percent Change
Brooklyn	14.0%	37%	+23%
Queens	16.7%	39%	+22%
Manhattan	17.7%	27%	+9%
Bronx	22.2%	29%	+7%

* Statistics represent the percentage of control areas that have sign deficiencies out of all the control areas evaluated in a particular borough.

** Includes only those deficiencies evaluated in 1997.

Mezzanines and Passageways

Signage Improvements Since 1997: Mezzanine and passageway signage deficiencies improved significantly in Manhattan and Queens since 1997. In 1997, signage deficiencies were found in close to half of the stations in Manhattan (45%) and more than a third of the stations in Queens (39%). In 2002, signage deficiencies are down to under 15 percent of the stations in both boroughs.

- **Manhattan** – Mezzanine and passageway signage deficiencies decreased the most in Manhattan stations (-33%), from 46 percent in 1997 to 13 percent in 2002.

- **Queens** – Mezzanine and passageway signage deficiencies also decreased in Queens stations (-29%), from 39 percent in 1997 to 10 percent in 2002.

Signage Deterioration Since 1997: Mezzanine and passageway signage deficiencies worsened in Bronx and Brooklyn stations since 1997. In 1997, signage deficiencies were found in none of the stations in the Bronx and in 15 percent of Brooklyn stations. In 2002, mezzanine and passageway signage deficiencies are in 13 percent of stations in the Bronx and 25 percent of Brooklyn stations.

- **Bronx** – Mezzanine and passageway signage deficiencies increased in Bronx stations (+13%), from none in 1997 to 13 percent in 2002.
- **Brooklyn** – Mezzanine and passageway signage deficiencies increased in Brooklyn stations (+10%), from 15 percent in 1997 to 25 percent in 2002.

Table 19. Mezzanine/ Passageway Signage Deficiencies by Borough 1997 and 2002*

Borough	1997	2002**	Percent Change
Manhattan	45.5%	13%	-33%
Queens	38.9%	10%	-29%
Bronx	0%	13%	+13%
Brooklyn	15.2%	25%	+10%

* Statistics represent the percentage of stations with mezzanines and passageways that have sign deficiencies out of all the stations with mezzanines and passageways evaluated in a particular borough.

** Includes data from categories evaluated in 1997.

Platforms²⁷

Signage Improvements Since 1997: None

Signage Deterioration Since 1997: Platform edge signage deficiencies worsened more than any other area of signage-- between 27 and 52 percentage points since 1997. In 1997, signage deficiencies were found on less than 25 percent of the platforms evaluated in the Bronx and Brooklyn and more than 25 percent of the platforms evaluated in Manhattan and Queens. In 2002, platform edge signage deficiencies range between three-quarters to half of the platforms evaluated in all the boroughs. Brooklyn and Manhattan platforms had higher percentages of edge sign deficiencies.

- **Bronx** – Platform edges sign deficiencies increased on platforms in the Bronx (+33%), from 17 percent in 1997 to 50 percent in 2002.

²⁷ Platform edge signage only. General platform signage was not compared due to data format differences in 1997 and 2002.

- **Brooklyn** – Platform edge sign deficiencies increased in Brooklyn (+52%), from 21 percent in 1997 to 73 percent in 2002.
- **Manhattan** – Platform edge sign deficiencies increased in Manhattan (+27%), from 41 percent in 1997 to 68 percent in 2002.
- **Queens** – Platform edge sign deficiencies increased in Queens (+33%), from 28 percent in 1997 to 61 percent in 2002.

Table 20. Platform Edge Sign Deficiencies by Borough – 1997 and 2002*

Borough	1997	2002**	Percent Change
Brooklyn	21.2%	73%	+52%
Bronx	16.7%	50%	+33%
Queens	27.5%	61%	+33%
Manhattan	40.6%	68%	+27%

* Statistics represent the percentage of platforms that have edge sign deficiencies out of all platforms evaluated in a particular borough.

** Includes only those deficiencies evaluated in 1997

KEY ISSUES

ACCESS TO AND FROM THE STATION

Globes

As a first point of entrance to the subway, globes provide an important symbolic and informational function for passengers at a range of distances: to identify and mark entrances to the subway system and to provide service information. As was noted in the 1997 study, globes provide an important service function by allowing riders to determine whether or not an entrance has full-time service without walking all the way to the entrance to read the hours posted.

Many station entrances, particularly at elevated stations, were found to be missing colored globes. The percentage of entrances with missing globes in 2002 (22%) held constant with the findings in 1997, indicating that this issue has yet to be addressed. At entrances where globes were present, the 2002 study found an increase (6%) in the numbers of globes that incorrectly indicated the service hours provided by the particular entrance. Furthermore, riders commonly mistake the significance of the red globe (non twenty-four hour or closed) by assuming that the entrance is closed. The current globe policy is clearly not working-- a new strategy is needed (See photographs, pp. 16,17).

Entrances to Both Directions of Travel Via Underpass

Observers found the signage on some entrance and turnstile signs to imply that access was available to platforms in both travel directions when access to one direction was available through an underpass or overpass. These signs are misleading to riders, who may prefer to choose a less circuitous route to reach the platform of their choice.

Exits

Stations typically have multiple entrances and exits often making it difficult for riders to know which exit will place them at the specific street corner and direction they need. In complex stations, it is particularly important to help customers navigate through passageway areas within the station to reach particular exits. While the 1995 Sign Manual only requires exit signs to indicate street corner directional information at stairway areas, this type of information is often needed by riders at earlier points of their decision making process-- in mezzanines and passageways, as well as control areas (See photograph, pp. 27, 29).

Bus Connection/ Transfer Signs

Transfers between buses and subways are common occurrences for riders, particularly since the free intermodal transfer implementation. NYC Transit, currently provides useful bus transfer information for riders at key stations on the subway map. In subway stations, bus transfer signage is provided sporadically at stations throughout the system -- 25 percent of the mezzanines/ passageways evaluated had bus transfer signage. Of the six stations in the study sample identified as major bus transfer centers on the MTA map, four had bus connection/ transfer signs.

In the past, NYC Transit provided bus connection transfer signage at stations to help guide riders who needed to transfer to buses when an additional fare was required. At present, there is no set policy for the installation of these signs.

Neighborhood Maps

Many stations in the study lacked neighborhood maps (42%). Neighborhood maps are important and useful tools to orient riders to the surrounding area. While the present neighborhood maps provide useful information about the general station layout, location of the adjacent subway stations in the area on a particular line, and general area landmarks, the maps are not oriented to helping riders and visitors not familiar with the surrounding area. A "you are here" message is invaluable in orienting riders.

ACCURACY AND ADEQUACY OF LINE/ SERVICE INFORMATION

Line/ Service Information

The study found a lack of consistency of line and service information provided on the signs within one station --at entrances, turnstiles, mezzanines/ passageways, platform stairs, and platform edges. Examples were identified where the Q diamond line service was listed on a platform edge sign, but not on the entrance, turnstile and mezzanine signs. Other problems were a missing or incomplete listing of the borough direction.

Platform edge signs, particularly, were found to be inconsistent in the wording and provision of information about borough direction, last stop and neighborhood destinations. Information was also imprecise about hours of service. The 2002 findings are consistent with 1997 study findings. Consistent wording, word order, format, and information is critical to guiding riders through such a complex system (See photograph, p. 34-36).

Subway Maps

The study found the majority of large system maps in control areas and on platforms to be the most recent maps printed, December 2001. These maps did not indicate the re-opening of the World Trade Center station on the E line or service changes on the W line in Astoria.

Many control areas (37%) and platform areas (49%) had missing or outdated maps. Single direction platforms with narrower platform areas lacked large wall maps, which were supplemented instead by more recent (January 2002) brochure-sized maps taped to the wall.

USER-FRIENDLY SERVICE INFORMATION

Graphic Representation of Line/ Service

Current signs give equal weight to all lines that serve a station, regardless of full, part-time, or late night service. This lack of distinction is confusing to riders, who may not know that all the lines indicated are not 24-hour service (See photograph, p. 18).

Diamond Line

The general public is not well informed about the meaning of the diamond symbol. In some cases, diamond line service indicates rush hour, such as, the 5 Diamond or express service on an existing line, such as, the 7 Diamond and the Q Diamond. In other instances, the same service takes on a different letter, such as on the # 9 and Z lines. In other instances, the diamond designates an alternate end destination, such as, on the 6, 5, and M Diamonds.

Skip Stop Service

Riders unfamiliar with the system do not know that certain lines are skip stop service only. Some signage installed at J/M/Z line stations indicates skip stop service directly below the line letter or number for the Z line. This helps clarify the service for riders.

Customer Information Centers

Subway station control areas are key places where riders make decisions about which line to take, what bus to take, or how to get to a place in the surrounding neighborhood. Information about subway system and service, bus route, and neighborhood information in these areas is critical. NYC Transit has recognized this and is in the process of installing new Customer Information Centers (CICs) at

24 key stations-- 10 stations have been completed another 14 will be completed by the end of September 2002.

The study found the older Passenger Information Centers (PICs) to be installed sporadically at stations. Some small station control areas lacked wall space for such a large installation.

WAYFINDING

Platforms

While the number and placement of platform edge signs were found to be in conformance with the 1995 Sign Manual, the 2002 study found that there are not enough signs to adequately guide riders. In many cases, edge signs were located at opposite ends of the platform, providing no information for riders who transfer between trains on the same platform, or those who may inadvertently miss the signs provided.

Another issue on platforms is where people should stand to board short car trains. Standing in the wrong place on the platform is an inconvenience for riders who must rush to board the train at a different location once the train arrives.

Mezzanines and Passageways

The study found signage to be missing or inadequate to guide riders in station mezzanine and passageway areas (18%). In some cases, signs were not well placed to guide riders to transfer between lines or existing signs did not adequately indicate the walking distance required to transfer. In other cases, there was not enough signage to indicate where riders should go (See photograph, p. 28).

Renovated Stations

Station renovations are no small undertaking, often requiring years to complete. Riders are supportive of this work, but find themselves unduly inconvenienced by unmarked, closed entrances and exits, relocated stairways, or redirected transfer passageways.

ADDITIONAL ISSUES

While technically beyond the scope of the study, the following service issue was identified through the study process.

Service

Weekend service on the J line service presently terminates at the Chambers Street station. In its present route designation, the J misses a key transfer point at the Fulton Street Street/ Broadway Nassau Street station, where many customers were observed trying to access the J on weekends.

RECOMMENDATIONS

The following recommendations are provided to improve subway signage accuracy, clarity, and consistency and to enhance the ability of riders to use and navigate through the subway system more easily. Recommendations include guiding principles for all subway signage; specific system-wide signage improvements for entrances, control areas, mezzanines/ passageways, and platforms, and additional subway system related improvements.

GUIDING PRINCIPLES

In a system as complex as the New York City subway, good signage is critical to helping people reach their destinations. Accuracy, clarity, and consistency are key elements of any successful signage program and should be made a priority in all New York City Transit subway system signage.

- **Accuracy.** Signage should provide accurate, timely, complete, and up-to-date service information. As was recommended in the 1997 study, content for new signs should be carefully reviewed for accuracy before signs are produced and installed. In addition, a process should be implemented whereby all signage is examined on a regular and routine basis to ensure that the information provided is complete and up-to-date.
- **Clarity.** Signage should be clear, simple, and easily understood.
- **Consistency.** Signage should be consistent system-wide. Information should be presented in the same word order, wherever possible, and attention should be paid to providing consistent information at all station segments of a line.

SYSTEM-WIDE IMPROVEMENTS

Specific improvements are recommended for entrance, control area, mezzanine/passageway, and platform signs to better communicate subway service, transfers, and hours of operation information to riders. Recommendations are organized according to the key issues they address.

Access to and from the Station

- **Create New Globe Policy.** The current globe policy is clearly not working. A new strategy is needed. In the short term, globes should be removed from exit-only, non HEET staircases and incorrect globes should be painted to accurately reflect the current entrance type. NYC Transit should conduct a review of policies and practices used at entrances in other subway systems to indicate service hours. At the same time, NYC Transit should investigate technologies that are currently on the market or in development that allow

for temporal changes by “the flip of a switch”. A technology such as this would permit a station agent or other Transit employee to more accurately indicate if an entrance is open or closed at a particular time by changing the color of the bulb that is lit.

In the long term, a new well-defined globe policy should be developed that is tied to a reclassified system of entrances. Entrances should be redefined to reflect a current status: open, closed, and access available only by MetroCard. Entrances that are currently open should be indicated with a green globe, currently closed entrances should have a red globe, and MetroCard access only entrances should have yellow globes. Once the new policy is instituted, an extensive public education campaign should be undertaken to inform riders.

- **Indicate Where Access is Possible to Both Directions of Travel Via Underpass or Overpass on Entrance and Turnstile Signs.** Entrance and turnstile signage, where applicable, should indicate that riders must use an underpass or overpass to access the alternate direction of travel. Information should also specify an alternate entrance with more direct access to the platform for that particular direction of travel.
- **Standardize Exit Signs in Control Areas and Stairways to Include Street Name and Corner Directions.** Street corner direction and street names should be required on exit signs above turnstiles, in control areas, some mezzanines and passageways, and stairways.
- **Install Bus Route Connection Signage at All Stations.** Bus route connection signage should be installed at key exit and entry decision points within the control, mezzanine and passageway areas. Priority should first be given to installing bus route connection signage at stations identified on the MTA Subway System Map as major bus transfer points.
- **Provide Neighborhood Maps at All Control Areas.** Where feasible, neighborhood maps should be installed as part of Customer Information Centers. Maps should be created to help riders find their way (wayfinding) by providing easier to read, visual graphic icons to identify key area landmarks and include the location of bus stops adjacent to subway stations. These maps should be developed in consultation with the local community boards, reviewed periodically and updated as needed.

Accuracy and Adequacy of Line/ Service Information

- **Identify Line and Service Information Consistently on Entry, Turnstile, Mezzanine and Passageway, Platform Stair, and Platform Edge Signage.** Attention should be paid to providing consistent and accurate information on signage throughout all areas of the station.

- **Develop Consistent Wording, Word Order, Format and Information for Platform Edge Signs.** Consistent wording, word order, format, and information is critical to guiding riders through such a complex system. All platform edge signs should contain the following information:
 - ▶ *BOROUGH DIRECTION* – Borough direction should include all the boroughs that the line passes through in a particular direction.
 - ▶ *LINE NUMBER/LETTER*
 - ▶ *LAST STATION STOP DESTINATION*
 - ▶ *LAST NEIGHBORHOOD STOP DESTINATION*
 - ▶ *HOURS OF SERVICE* - Hours of service should be specifically defined on platform edge signs according to normal and late night service hours.
 - ▶ *ALTERNATE LINE SERVICE*- Alternate line service information should be provided to guide riders when part-time service is not running.
- **Provide Updated Subway System Maps in Control Areas and on Platforms.** New maps should be available the day a service change takes place. Maps should be updated when any major service change occurs. For temporary changes, correction stickers should be posted to the surface of the large maps (under the glass panel). For station platforms with a limited platform area, maps should be installed in glassed flat panel structures and attached to station walls at several locations along the platform.

User-Friendly Service Information

- **Develop Uniform Graphic Representations to Differentiate Between Full-and Part-Time Service Lines on All Signage.** Additional visual graphic representations are necessary to differentiate those lines that serve a station other than Monday through Friday between 6:00 am and 11:00 pm. New graphic icons are needed on all station signage to indicate lines that serve the station part-time and late nights “Owl Service”.
- **Define the Diamond Symbol and Use It Consistently.** NYC Transit should more clearly define the rationale behind the diamond symbol, consistently assign its use, and inform the public of the revised definition.
- **Specify Skip Stop Service on All Signage.** At stations where skip stop service is provided, linear strip maps and information with the designated skip stops should be delineated on signage in the control and platform areas.
- **Install Customer Information Centers at All Stations, Where Possible.** Customer Information Centers should be installed consistently in all stations, not only key stations, and monitored to ensure the provision of accurate, up-to-date system and service information. In stations with small control areas, a modified version of the Customer Information Centers should be installed. Subway system and neighborhood maps should be included at all locations.

Wayfinding

- **Increase the Number of Platform Edge Signs.** Platform edge signs should be placed at regular intervals along the entire length of the platform.
- **Install Signs To Indicate Passenger Boarding Areas for Short Car Trains.** Signs should be installed on station platforms along the lines, such as, the G to indicate where passengers should stand to board the shorter trains.
- **Install Signs in Mezzanine and Passageway Areas to Aid Station Wayfinding.** Additional signs should be installed and existing signs should be repositioned at key decision points within the station to help riders navigate station areas, locate the appropriate directional platform, and facilitate transfers between lines.
- **Install Temporary Signage During Station Renovations.** Special attention should be given while renovation work is going on to the provision of durable signage to identify changed platforms, closed entrances/ exits, relocated token booths, and long term service diversions.

ADDITIONAL SUBWAY SYSTEM RELATED IMPROVEMENTS

A service issue was identified during the course of the study. The following recommendation addresses this issue.

Service

- **Extend J line Service to Broad Street on Weekends.** Weekend service on the J line should be extended to the Broad Street station instead of its current termination point at the Chambers Street station to allow riders to access a free transfer point at the Fulton Street/Broadway Nassau Street station.

