



CITY OF NEW YORK  
**OFFICE OF THE COMPTROLLER**  
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DEPUTY COMPTROLLER FOR  
AUDIT

BUREAU OF AUDIT

June 25, 2020

**By Electronic Mail**

Jessica Tisch  
Commissioner  
New York City Department of  
Information Technology and Telecommunications  
2 MetroTech, 5<sup>th</sup> Floor  
Brooklyn, NY 11201

**Re: Final Letter Report on the Installation of LinkNYC Kiosks in New York City as  
Provided by CityBridge, LLC Phase III Manhattan (Audit # SZ20-098AL)**

Dear Commissioner Tisch:

This Final Letter Report presents the results of the New York City Comptroller's audit of the installation of LinkNYC Kiosks (Kiosks) in Manhattan as provided by CityBridge, LLC (CityBridge). LinkNYC is a new communications network that is replacing New York City pay phones with free Wi-Fi Kiosks. The objective of this audit was to determine whether CityBridge installed and maintained the Kiosks with all of the required key features. According to the City's franchise agreement with CityBridge, the installation of 7,500 Kiosks across the five boroughs will be completed in ten phases. This audit focuses on the installation of Kiosks in the borough of Manhattan as required by Phase III and is the third in a series of audits of the ongoing installation of Kiosks. Unlike the previous reports of Phase I and Phase II, this report is limited to Manhattan.<sup>1</sup>

**Background**

The Department of Information Technology and Telecommunications (DoITT) was established to, among other things, provide for the sustained, efficient, and effective delivery of information technology (IT) services, infrastructure, and telecommunications to enhance service delivery to the City's residents, businesses, employees, and visitors. DoITT serves 120 City agencies, boards, offices, and more than 8 million City residents and 300,000 employees. It aims to provide New Yorkers and the agencies that serve them with innovative and accessible technology solutions. On December 10, 2014, the Franchise and Concession Review Committee (FCRC) unanimously

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<sup>1</sup> For this audit, auditors tested 979 of 985 (99%) Kiosks in Manhattan. The auditors did not test 100 percent of the Kiosks as was the practice in the previous audits because, prior to the completion of our testing, the "stay-at-home order" was instituted in New York City to prevent the spread of COVID-19.

approved a non-exclusive franchise agreement that authorizes CityBridge to install, operate, and maintain public communications Kiosks.<sup>2</sup>

The key features of the Kiosks include functionalities that:

- Enable users to use their personal devices to connect to LinkNYC's free Wi-Fi;
- Provide access to City services, maps, and directions from a touchscreen tablet;<sup>3</sup>
- Enable users to make free phone calls to anywhere in the U.S. by using the Ring Central<sup>4</sup> app on the tablet or the tactile keypad and microphone, and to plug in their personal headphones for privacy;
- Provide a dedicated red 911 button for use in the event of an emergency;
- Enable users to charge their personal devices using the Kiosk's power-only Universal Serial Bus (USB) port;<sup>5</sup> and
- Provide two 55" HD displays for public service announcements and advertising.

Built at no cost to taxpayers, the five-borough LinkNYC network is expected to, through advertising proceeds, generate more than \$500 million in revenue for the City over the initiative's first 12 years. According to DoITT, by replacing an aging network of public pay telephones with state-of-the-art Kiosks, CityBridge will transform the physical streetscape with a sleek design, enhance New Yorkers' access to information, and create new local jobs for the development, service, and maintenance of the Kiosks.

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<sup>2</sup> According to the Mayor's Office of Contracts website, "The FCRC is composed of six members: members represent the Mayor (the Mayor has two representatives), the New York City Law Department, the Office of Management and Budget (OMB), the City Comptroller, and representatives of the five Borough Presidents who share one vote, which is allocated according to the location of the franchise or concession at issue." *See* City Charter Chapter 14, § 373.

<sup>3</sup> Upon initial release, the tablets were equipped for Internet browsing; however, this feature was subsequently restricted due to community concerns.

<sup>4</sup> According to DoITT's response, the current provider is Ring Central. The services provided are the same as under the Vonage agreement.

<sup>5</sup> USB, short for Universal Serial Bus, is an industry standard that was developed to define cables, connectors, and protocols for connection, communication, and power supply between personal computers and their peripheral devices.

Initially, the franchise agreement authorized CityBridge to install over 7,500 Kiosks across the five boroughs over an eight-year period as detailed in Table I below.

**Table I**

**Breakdown of Total Kiosks Being Installed in New York City**

<b>Borough</b>	<b>Total Number of Kiosks</b>
<b>Brooklyn</b>	1,346
<b>Bronx</b>	736
<b>Manhattan</b>	3,900
<b>Queens</b>	1,239
<b>Staten Island</b>	279
<b>Total</b>	<b>7,500</b>

Section 1.2.3 of the Public Communication Structure Franchise Agreement, Attachment SRV (Services), sets forth the schedule for the minimum cumulative number of Kiosks required to be in operation per year, per borough, beginning on July 21, 2015. By the end of Phase III, on July 20, 2018, a total of 1,782 Kiosks were required to be operational in Manhattan, as detailed in Table II.

However, an amendment to CityBridge's franchise agreement was approved in May 2018, which extended the buildout period for an additional two years, from 2023 to 2025. This amendment changed the minimum number of Kiosks required to be operational each year, and reduced the number of Kiosks in Manhattan to be installed and operational by the end of Phase III from 1,782 to 985.<sup>6</sup>

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<sup>6</sup> Amendment number 2 modifies the schedule and distribution of structures to be installed under contract No. RCT1-858-20158202566 between CityBridge, LLC and the City of New York acting through DoITT.

**Table II**

**Breakdown of the Number of Kiosks to be Installed in New York City at the End of Phase III under the Initial Eight-Year Agreement and the Amended Ten-Year Agreement**

<b>Borough</b>	<b>Total Number of Kiosks to be Installed through Phase III under the Eight-Year Contract</b>	<b>Total Number of Kiosks to be Installed through Phase III under the Ten-Year Contract</b>	<b>Difference in the Number of Kiosks that should be Installed and Operational</b>
<b>Brooklyn</b>	349	241	108
<b>Bronx</b>	164	133	31
<b>Manhattan</b>	1,782	985	797
<b>Queens</b>	430	260	170
<b>Staten Island</b>	105	34	71
<b>Total</b>	<b>2,830</b>	<b>1,653</b>	<b>1,177</b>

This audit focused on the borough of Manhattan. We examined whether the Kiosks installed as part of Phase I, Phase II, and Phase III were operational and whether they incorporated the required key features.

Under the amended ten year distribution, the 985 Kiosks to be installed by the end of Phase III are divided as follows:

- 282 Kiosks were included in Phase I
- 355 Kiosks were included in Phase II
- 348 Kiosks were included as part of Phase III

**Audit Findings**

We tested 979 out of the 985 Kiosks in Manhattan. We found that those 979 Kiosks were operational as required by the agreement. In addition, we found that the installed Kiosks contained the required key features and generally, with some exceptions noted, at the time of sampling were operating as intended. Specifically, we found that:

- 907 of 979 tablet screens (93 percent) were operating as intended;
- 907 of 979 Kiosks (93 percent) enabled users to make phone calls;
- 963 of 979 Kiosks (98 percent) were able to connect to LinkNYC free Wi-Fi;
- 914 of 979 Kiosks (93 percent) had operable USB charging ports that could charge cellular devices; and
- 958 of 979 left-side advertising screens (98 percent) and 959 of 979 right-side advertising screens (98 percent) were operating on the Kiosks.

Table III below is a breakdown of the functionality of the key features of the Kiosks in Manhattan.

**Table III**

**Breakdown of the Operational Status Kiosks Tested During Phase III Kiosks in Manhattan**

<b>Manhattan Kiosks</b>						
<b>Status</b>	<b>Tablet Screen</b>	<b>Phone Calls</b>	<b>Wi-Fi</b>	<b>USB</b>	<b>Advertising (Left)</b>	<b>Advertising (Right)</b>
Operational	907	907	963	914	958	959
Not Operational	72	72	16	65	21	20
<b>Total</b>	<b>979</b>	<b>979</b>	<b>979</b>	<b>979</b>	<b>979</b>	<b>979</b>

According to the franchise agreement between CityBridge and DoITT, the Kiosks shall be accessible 24 hours a day, 7 days a week, and will not be operational only when necessary for maintenance, repairs, and upgrades. The agreement also requires that the Wi-Fi connectivity be available for at least 97 percent of its operating capacity (also referred to as a 97 percent uptime level).<sup>7</sup>

Overall, we found that the percentages of Kiosks where the Wi-Fi connectivity was operational during our testing was 98 percent in Manhattan. We tested the operability of each Kiosk’s Wi-Fi connectivity at a specific point in time rather than the uptime<sup>8</sup> level of the Wi-Fi connectivity by individual Kiosk or across all Kiosks. Given the number of Kiosks that we found with operable Wi-Fi, the results of our tests in Manhattan show that the Wi-Fi connectivity of the Kiosks installed for the LinkNYC program is meeting the 97 percent minimum uptime benchmark established in the agreement. For this audit, we did not examine CityBridge’s repair program.

Table IV below is a breakdown of the Kiosk locations and our observations in Manhattan:

<sup>7</sup> The Public Communications Structure Franchise Agreement, Attachment SRV (Services), states that the franchisee shall provide Wi-Fi services 24 hours a day, seven days a week and 365 days a year throughout the term of the agreement with an uptime of at least ninety-seven percent (97%) exclusive of upgrades and planned maintenance.

<sup>8</sup> Uptime is a measure of system reliability, expressed as the percentage a machine, typically a computer, has been working and available. Uptime is the opposite of downtime.

**Table IV**

**Breakdown of the Operational Status Kiosks Tested During Phase III Kiosks in Manhattan by Location**

Manhattan Summary								
Avenue or Neighborhood	Status	Phone call	Wi-Fi	USB	Advertising ( Left )	Advertising(Right)	Tablet Screen	Total Number of Links Tested
First Avenue	Operational	54	55	53	54	54	54	56
Second Avenue		90	91	91	92	90	90	93
Third Avenue		176	191	175	191	191	176	193
Lexington Avenue		29	31	30	31	31	29	31
Park Avenue		19	19	18	20	20	19	22
Madison Avenue		45	46	43	48	47	45	48
Broadway		187	198	193	196	196	187	198
Fifth Avenue		25	27	24	27	27	25	27
Sixth Avenue and Lenox Avenue		33	38	33	37	37	33	38
Seventh Avenue and Adam Clayton Powell Blvd		61	65	60	65	65	61	69
Eighth Avenue and Frederick Douglass Boulevard		41	44	43	40	42	41	44
Ninth Avenue and Columbus Avenue		12	11	12	11	12	12	12
Tenth Avenue and Amsterdam Avenue		79	89	82	89	88	78	89
Eleventh Avenue		1	1	1	1	1	1	1
St Nicholas Avenue		29	31	29	31	31	29	31
Lower East Side , Lower Manhattan and Husdon Square		26	26	27	25	27	27	27
<b>Subtotal</b>		<b>907</b>	<b>963</b>	<b>914</b>	<b>958</b>	<b>959</b>	<b>907</b>	<b>979</b>
<b>Percentage</b>		<b>93%</b>	<b>98%</b>	<b>93%</b>	<b>98%</b>	<b>98%</b>	<b>93%</b>	<b>100%</b>
First Avenue	Not Operational	2	1	3	2	2	2	56
Second Avenue		3	2	2	1	3	3	93
Third Avenue		17	2	18	2	2	17	193
Lexington Avenue		2	0	1	0	0	2	31
Park Avenue		3	3	4	2	2	3	22
Madison Avenue		3	2	5	0	1	3	48
Broadway		11	0	5	2	2	11	198
Fifth Avenue		2	0	3	0	0	2	27
Sixth Avenue and Lenox Avenue		5	0	5	1	1	5	38
Seventh Avenue and Adam Clayton Powell Blvd		8	4	9	4	4	8	69
Eighth Avenue and Frederick Douglass Boulevard		3	0	1	4	2	3	44
Ninth Avenue and Columbus Avenue		0	1	0	1	0	0	12
Tenth Avenue and Amsterdam Avenue		10	0	7	0	1	11	89
Eleventh Avenue		0	0	0	0	0	0	1
St Nicholas Avenue		2	0	2	0	0	2	31
Lower East Side, Lower Manhattan and Husdon Square		1	1	0	2	0	0	27
<b>Subtotal</b>		<b>72</b>	<b>16</b>	<b>65</b>	<b>21</b>	<b>20</b>	<b>72</b>	<b>979</b>
<b>Percentage</b>		<b>7%</b>	<b>2%</b>	<b>7%</b>	<b>2%</b>	<b>2%</b>	<b>7%</b>	<b>100%</b>
<b>Overall Total</b>		<b>979</b>	<b>979</b>	<b>979</b>	<b>979</b>	<b>979</b>	<b>979</b>	<b>979</b>

In Manhattan, we observed and tested 979 Kiosks on the following avenues or streets:

- First Avenue from East 4<sup>th</sup> Street to East 78<sup>th</sup> Street;
- Second Avenue from East 3<sup>rd</sup> Street to East 116<sup>th</sup> Street;
- Third Avenue from East 9<sup>th</sup> Street to East 125<sup>th</sup> Street;
- Lexington Avenue from East 24<sup>th</sup> Street to East 116<sup>th</sup> Street;
- Park Avenue from East 14<sup>th</sup> Street to East 116<sup>th</sup> Street;
- Madison Avenue from East 29<sup>th</sup> Street to East 116<sup>th</sup> Street;
- Fifth Avenue from East 14<sup>th</sup> Street to East 116<sup>th</sup> Street;
- Broadway from Spring Street to West 173<sup>rd</sup> Street;
- Sixth Avenue from Charlton Street to West 42<sup>nd</sup> Street;
- Lenox Avenue from East 116<sup>th</sup> Street to East 125<sup>th</sup> Street;
- Seventh Avenue from West 14<sup>th</sup> Street to West 59<sup>th</sup> Street;
- Adam Clayton Powell from West 117<sup>th</sup> Street to West 149<sup>th</sup> Street;
- Eighth Avenue from West 14<sup>th</sup> Street to West 23<sup>rd</sup> Street;
- Frederick Douglass Boulevard from West 112<sup>th</sup> Street to West 150<sup>th</sup> Street;
- Columbus Avenue from West 72<sup>nd</sup> Street to West 107<sup>th</sup> Street;
- Tenth Avenue from West 46<sup>th</sup> Street to West 58<sup>th</sup> Street;
- Amsterdam Avenue from West 68<sup>th</sup> Street to West 141<sup>st</sup> Street;
- Eleventh Avenue and West 42<sup>nd</sup> Street;
- St. Nicholas Avenue from West 121<sup>st</sup> Street to West 192<sup>nd</sup> Street;
- Worth Street and Lafayette Street;
- Stanton Street and Allen Street;
- Church Street and Worth Street; and
- Hudson Street and Grove Street.

We did not retest the faulty Kiosks, which is our normal practice, due to the stay-at-home order instituted in New York City in March 2020 in an effort to curb the spread of COVID-19.

## **Recommendations**

1. DoITT should ensure that CityBridge fulfills its contractual obligations by ensuring that the Kiosks' Wi-Fi feature is functioning at the level required by the agreement.
2. DoITT should ensure that CityBridge repairs the key features that were not functioning during our tests.

## Scope and Methodology

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

The audit covered the borough of Manhattan from the period of June 8, 2019 through March 5, 2020. Our audit determined whether the 979 of the 985 Kiosks scheduled to be installed by the end of Phase III were in fact on the ground and included the required key features.

We obtained a list of the Kiosks supposed to be installed, functional, and readily available for public use during the period we tested. We obtained a list of LinkNYC Kiosks from DoITT and from Open Data NYC.<sup>9</sup> This list identified all Kiosks located throughout the borough of Manhattan. To determine the reliability of the list of Kiosks provided to us, we visited the locations identified for the 979 Kiosks listed to test whether the Kiosks were operational and included all the required key features. As part of our observations, which were conducted from June 8, 2019 through March 5, 2020, we tested the operating effectiveness of the LinkNYC free Wi-Fi. We also tested whether the other features were operational including the operating effectiveness of the touchscreen tablet, the ability to make phone calls, the effectiveness of charging devices in a power-only USB port, and the advertising screens displays.

To achieve our audit objective, we were equipped with cellular devices; USB cables; an updated list of all Kiosks, which included Kiosks installed in Phase I, Phase II and Phase III; and a checklist to record the functionality of each feature when testing the Kiosk. This process enabled our auditors to determine whether the cellular devices and personal touchscreen tablets could connect to the LinkNYC free Wi-Fi network, whether the USB ports would charge devices, and whether the ability to place phone calls within the U.S. was available.

To determine whether there was access to the Wi-Fi hotspots, auditors signed into the LinkNYC free Wi-Fi. To determine whether the Kiosks' capacity to enable phone calls within the U.S. was active, auditors dialed operating phone numbers on the touchscreen tablet and attempted to make a connection with other phones. To determine whether the USB charging ports were operating effectively, auditors plugged USB cords into the USB ports to establish a charge to the cellular devices. The auditors also made a visual check of the advertising screens located on the left and right sides of each Kiosk to ensure that the displays were functioning appropriately. We took photos of the Kiosks, saved screenshots of the USB connections, and recorded our results on a checklist to document our findings.

Testing was performed Monday through Sunday at various times during the 24-hour cycle to ensure that the Wi-Fi network was available and the USB charging ports were operational at all times. In addition, the auditors tested service in inclement weather to determine the effect on the Wi-Fi and

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<sup>9</sup> Open Data is a free public data published by the City of New York agencies and other partners.



cellular service.

The matters covered in this letter report were discussed with DoITT officials during and at the conclusion of the audit, and they agreed that an exit conference was not necessary. On June 5, 2020, we submitted a draft letter report to DoITT officials with a request for comments. We received a written response from DoITT on June 19, 2020. In its response, DoITT agreed with the audit's findings and recommendations, stating, "We are pleased with your finding that, overall, the kiosk services generally operated as intended. . . . DoITT agrees with the recommendations and will continue to work with CityBridge to meet the LinkNYC Wi-Fi levels of availability with respect to the agreement."

In addition, DoITT stated that "[y]our report references the requirements in the franchise agreement that CityBridge pay over \$500 million dollar[s] in revenue to the City and deploy a total of 7,500 link kiosks. At this time DoITT cannot estimate how much total revenue will be received by the City or how many kiosks will be deployed over the course of the agreement. We are currently in discussion with the vendor about changes to the program that may result in changes to the revenue and deployment requirements."

The full text of DoITT's response is included as an addendum to this report.

Sincerely,



Marjorie Landa

- c: Michael Pastor, Deputy Commissioner and General Counsel, DoITT
- Andrew M. Manshei, Assistant Commissioner, Franchise Administration, DoITT
- William Harris, Director, Franchise Audits and Revenue, Franchise Administration, DoITT
- Denise Raymond, Program Quality Oversight Lead, Quality Assurance Office, DoITT
- Jeff Thamkittikasem, Director, Mayor's Office of Operations
- Brady Hamed, Chief of Staff, Mayor's Office of Operations
- Florim Ardolli, Assistant Director, Mayor's Office of Operations



June 19, 2020

Marjorie Landa  
Deputy Comptroller for Audit  
City of New York Office of the Comptroller  
1 Centre Street, Room 1100  
New York, NY 10007

**Re: Draft Letter Audit Report the Installation of LinkNYC Kiosks in New York City as provided by CityBridge, LLC (Audit # SZ20-098AL)**

Dear Deputy Comptroller Landa:

This letter addresses the findings and recommendations contained in the New York City Comptroller's Draft Letter Audit Report ("Report"), dated June 5, 2020, on the above subject matter.

As your Report notes, LinkNYC installs kiosks to enable users to use their personal devices to connect to free-WiFi, access City services, maps and directions from a touch screen tablet, make free phone calls in the U.S., contact 911 for emergency services, charge personal devices in a USB port, and access City services, maps and directions from a touch screen tablet. LinkNYC also provides two 55" HD displays for public service announcements and advertising. The agreement with the franchisee, CityBridge, calls for installation of 7,500 kiosks across the five boroughs over ten years. Your Report notes that kiosks were tested in all five boroughs and that the Kiosks installed contained the required key features and operated as intended with some exceptions noted. We are pleased with your finding that, overall, the kiosk services generally operated as intended.

Your report references the requirements in the franchise agreement that CityBridge pay over \$500 million dollar in revenue to the City and deploy a total of 7,500 link kiosks. At this time DoITT cannot estimate how much total revenue will be received by the City or how many kiosks will be deployed over the course of the agreement. We are currently in discussion with the vendor about changes to the program that may result in changes to the revenue and deployment requirements.

Your report also references the telephone call services provided by Vonage. The current provider is Ring Central. The services provided are the same as under the Vonage agreement.

In reference to the Report's recommendations:



**Recommendation 1: DoITT should ensure that CityBridge fulfills its contractual obligations by ensuring that the Kiosk' Wi-Fi feature is functioning at the level required by the agreement.**

**Recommendation 2: DoITT should ensure that CityBridge repairs the key features that were not functioning during our tests.**

DoITT agrees with the recommendations and will continue to work with CityBridge to meet the LinkNYC Wi-Fi levels of availability with respect to the agreement. DoITT wishes to thank you and your audit staff for the time and effort devoted to completing this Report.

Sincerely,

Jessica Tisch

A handwritten signature in black ink, appearing to read 'Jessica Tisch', is written over the printed name. The signature is fluid and cursive, with a long horizontal stroke at the end.