A Robust Internal System for Successful Broadband Implementation

OPERATIONAL PLAN

Janette Fong | James Clay McGuyer
Christine Sakuda | Bill Ward

Tech Executive
Leadership Initiative

Tech Executive
Leadership Initiative

ABOUT THE TECH EXECUTIVE LEADERSHIP INITIATIVE

The Tech Executive Leadership Initiative (TELI) is a
skills–building initiative to prepare experienced technology
leaders to engage effectively with public sector challenges.

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Image by Zachary Debottis

Executive Summary

The New York City Mayor's Office of the CTO (MOCTO)'s Internet Master Plan should be supported by a comprehensive performance management system. We believe the key priorities for such a performance management system should be:

▸ **Defining digital equity metrics to measure internet service provider (ISP) performance.** We propose a starter set of metrics. See Section 1.

▸ **Conducting regular performance evaluations of ISPs using the digital equity metrics.** We propose running a quarterly performance review. See Section 2.

▸ **Using the outcomes of quarterly performance evaluations to award future contracts.** We propose tying future subscriber growth potential to performance. See Section 3.

▸ **Ensuring that established digital equity metrics are included in future ISP contracts and by other government agencies.** We propose that MOCTO help other agencies adopt a standardized contractual reporting agreement. See Section 4.

▸ **Communicating the impact of digital equity broadband initiatives to the Mayor and to NYC residents.** We propose that MOCTO launch a formal public campaign targeting key stakeholders and the broader public. See Section 5.

Background and Concept

Since the Universal Solicitation for Broadband Citywide Request for Proposal (RFP) was initiated in March 2021, ISPs have already made significant progress towards the City's goal of broadband connectivity for all citizens. However, a complete understanding of broadband improvement is difficult to determine as there is no coordinated process for ISPs to report progress to the City. To hold ISPs accountable, track progress, and communicate success to constituents, the City should implement a robust and formal performance management system.

The ideal performance management system would enable five core functions:

1. Defining digital equity metrics to measure ISP performance;

2. Conducting regular performance evaluations of vendors using the digital equity metrics;

3. Using the outcomes of quarterly performance evaluations to award future contracts;

4. Ensuring that established digital equity metrics are included in future ISP contracts and by other government agencies; and

5. Communicating the impact of digital equity broadband initiatives to the Mayor and to NYC residents.

We consider each function in turn below, explaining the rationale for each and our suggested implementation.

Section 1: Defining Digital Equity Metrics for ISP Performance

Overview

The City should establish metrics to evaluate the impact of its investments in broadband infrastructure. These metrics should be centrally tracked and available publicly to inform the work of stakeholders across the New York City government.

Specifically, the steps for creating and maintaining such metrics would be (1) establishing the metrics to be tracked; (2) educating stakeholders who manage broadband infrastructure about the metrics; and (3) adding or removing relevant metrics over time as necessary.

Centrally developed and promulgated metrics would enable stakeholders to understand the value they are getting from the City's infrastructure investments, help the City make data-driven decisions about new investments, and inform City decisionmaking as to whether to reward or penalize existing contract providers.

Rationale

Key metrics about broadband connectivity are not uniformly reported and often omit information about digital inclusion. Creating a central set of metrics that are tracked for all contracts would help the City assess whether its investments are making adequate progress towards their goals and compare performance across providers.

Implementation

(a) Establishing Metrics to be Tracked

We recommend the City use the following list of metrics. These chosen metrics align with the IMP's five Broadband Principles of Equity and Performance of Internet Services.

1. HOUSEHOLDS in target neighborhoods NOT CONNECTED to broadband as of [insert current date].

2. HOUSEHOLDS in target neighborhoods NEWLY CONNECTED to broadband as of [insert current date].

3. Price of subscription:
   a. Average price per month; and
   b. Percent of subscribers paying $20/month or less.

4. Number of blocks with CITY OWNED FIBER (City should require all franchise owners to provide their fiber and antenna maps).

5. Number of blocks with NEW CITY OWNED FIBER installed (City should require all franchise owners to provide their fiber and antenna maps).

6. ACTUAL SPEED of internet experienced by households (City should require franchise owners to report in mbps by download and upload speeds):
   a. Download and upload speeds:
      i. The City should require franchise owners to report the range of speeds experienced per household over the prior quarter as falling within one of the following categories:
         1. 25th percentile – Defined as the 'slower end' (p25) of download/upload speeds experienced by households over the prior quarter.
         2. 50th percentile – Defined as the 'average' (p50) of download/upload speeds experienced by households over the prior quarter.
         3. 95 percentile – Defined as the 'highest end' (p95) of download/upload speeds experienced by households over the prior quarter.
   b. Latency – The City should similarly evaluate franchise owners to report latency per week over the prior quarter by choosing between performance in the 25th, 50th, or 95th percentiles.

7. COST OF FIBER installed (including antennas, copper, etc.) in total and per connected household served. These metrics should be publicly posted to a page within MOCTO's website for easy reference by stakeholders across the city government, providers, and the public.

(b) Educating Stakeholders Who Manage Broadband Infrastructure

Once the City establishes performance metrics, it would be responsible for ensuring that all managers of City contracts that invest in broadband infrastructure understand these metrics and know where to find them. A concerted effort to educate stakeholders would require the following components:

1. **Contract Review.** The City should:
   a. Identify all contracts involving investment in broadband infrastructure across all city agencies; and
   b. Record these in a centralized spreadsheet.
2. **Contract Stakeholder Identification.** For each contract, the City should:
   a. Identify the stakeholder at the relevant agency;
   b. Identify the stakeholder at the relevant provider;
   c. Record the below information in a spreadsheet; and
      i. Contract name;
      ii. City agency;
      iii. City stakeholder name;
      iv. City stakeholder email;
      v. City stakeholder phone number;
      vi. Provider name;
      vii. Provider stakeholder name;
      viii. Provider stakeholder email; and
      ix. Provider stakeholder phone number.
3. Load the collected information into a spreadsheet (see here and below for a sample spreadsheet)

NYC MoCTO - Digital Equity Manager - Broadband Contract Tracker

#	Contract Name	City Agency	City Stakeholder Name	City Stakeholder Email	City Stakeholder Phone Number	Provider Name	Provider Stakeholder	Provider Stakeholder Email	Provider Stakeholder Phone Number
1	Example Contract	Dept of Ed.	Jane Smith	jsmith@nyc.gov	(212) 345-6789	Starry Internet	Jim Jones	jjones@starry.com	(860) 987-6543
2									
3									
4									
5									

4. **Stakeholder Education.** Once the stakeholders are identified, the City should:
   a. Email the established set of metrics to the list of contract stakeholders with an email similar to the below; and
   b. Send a follow up email to any person who does not confirm receipt and understanding, requesting time to meet and review together.

Dear [Stakeholder Name],

I hope this note finds you well! I write from the NYC Mayor's Office of the CTO, where I help maintain and measure a set of performance metrics for all city broadband contracts. I've identified you as a key stakeholder on one of our contracts and would like to take this opportunity to share the critical performance metrics that we are tracking across the city. You will find them below.

We use these metrics to 1) ensure new contracts are adequately holding providers accountable to digital inclusion priorities; 2) evaluate canceling or extending contracts; and 3) serve as the primary artifact for our quarterly provider review, where we review all city broadband contracts for their performance against these metrics.

Here is a full list of the metrics that we are tracking across the city:

[INSERT LIST OF METRICS HERE]

Please send me a quick note acknowledging your receipt and understanding of this email. If you would like to discuss, please email me and we can find a time to meet and review them together.

I look forward to supporting the success of your strategic initiatives through the tracking of these metrics!

Best,

[Your Name]

[Your Title]

NYC Mayor's Office of the CTO

(c) Add and/or Remove Relevant Metrics Over Time

The City would likely need to hone its metrics over time to make sure they are as useful as possible. To do so, every six months:

1. The City should review the current metrics and evaluate whether they:

   a. Adequately capture the City's digital inclusion priorities;

   b. Adequately measure ISPs' digital inclusion impact;

   c. Are not redundant and do not include irrelevant information.

2. The City should add any metrics that need to be added to the centralized list of metrics.

3. The City should remove any metrics that need to be deleted from its list of metrics.

4. The City should then publish the revised list of metrics to the MOCTO webpage to ensure the page is always accurate and current.

5. The City should email all stakeholders on the Broadband Contract Spreadsheet created in section (b) above and point them to the list of the changes to the metrics and the MOCTO webpage.

Image by Maximal Focus

Section 2: Conducting Regular Vendor Performance Evaluations

Overview and Rationale

Once digital equity metrics are developed and stakeholders are made aware of them, the City should convene Quarterly ISP Performance Reviews to assess vendors' progress against these metrics. In anticipation of these reviews, ISPs should self-report their progress on each measure from the prior quarter. The City should then operate the reviews as a forum for public review and disclosure to review vendors' submissions and keep them accountable.

A sample blueprint for convening Quarterly ISP Performance Reviews is outlined below.

Vendor Performance Evaluation Meeting Structure

Meeting Intent

▶ To review ISP performance against standardized, self-reported metrics;

▶ To evaluate ISP progress; and

▶ To publish that progress publicly for transparency.

Meeting Participants

The Quarterly Review meetings should include:

▶ Representatives from the ISPs being reviewed, typically the Account Manager;

▶ The MOCTO Chief of Staff; and

▶ The NYC departmental contract owner for each ISP.

Meeting Agenda

A sample agenda for each review meeting could be:

1. Welcome (5 min).

2. Artifact Review: ISP Metrics.
   Each ISP Representative presents their metrics (15 min each).

3. MOCTO Updates and Instructions for ISPs for the Upcoming Quarter (15 min).

4 Questions and Discussion from ISPs (30 min).

Image by Thomas Habr

Central Meeting Artifact: ISP Metrics

At each Quarterly Review, ISPs would be required to report on the established metrics in a standardized format. See below for a suggested format:

Reporting on Neighborhood: Seagate-Coney (BK21)
Current Reporting Quarter: Q4 2022
ISP: Starry Internet

Households Connected to Home Broadband

■ HH newly connected to home broadband
■ HH not connected to home broadband

— (Existing) Privately-owned Fiber
■ (New, theoretical) Wireless Antenna
○·○ (New, theoretical) Aerial or Underground Fiber or Cable

Average Monthly Subscription: $32.65
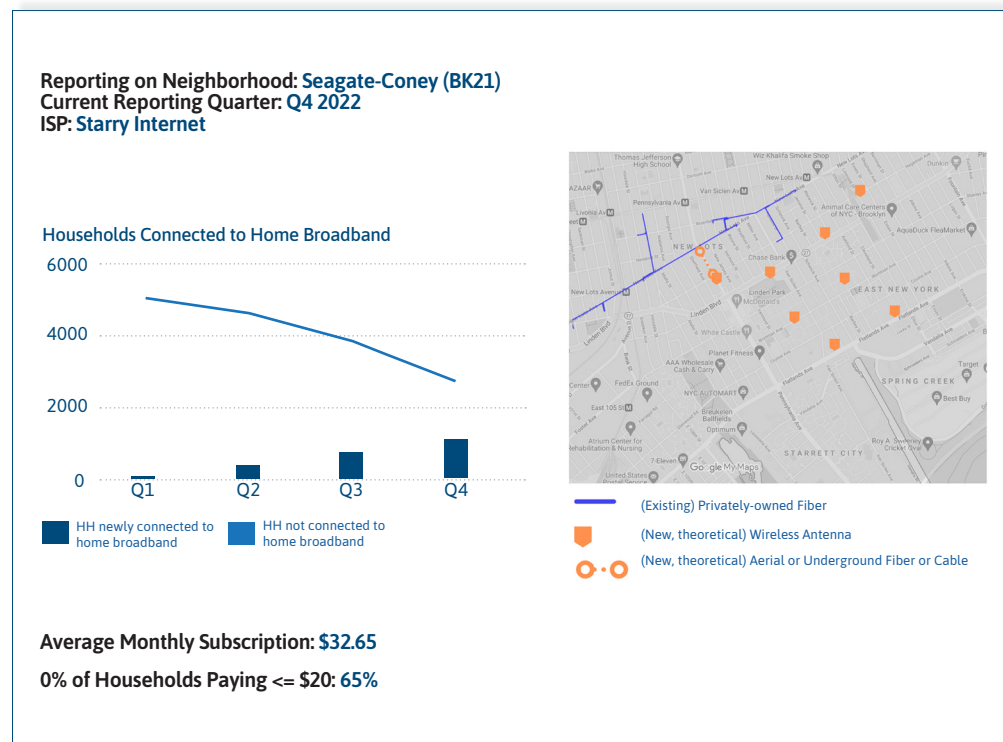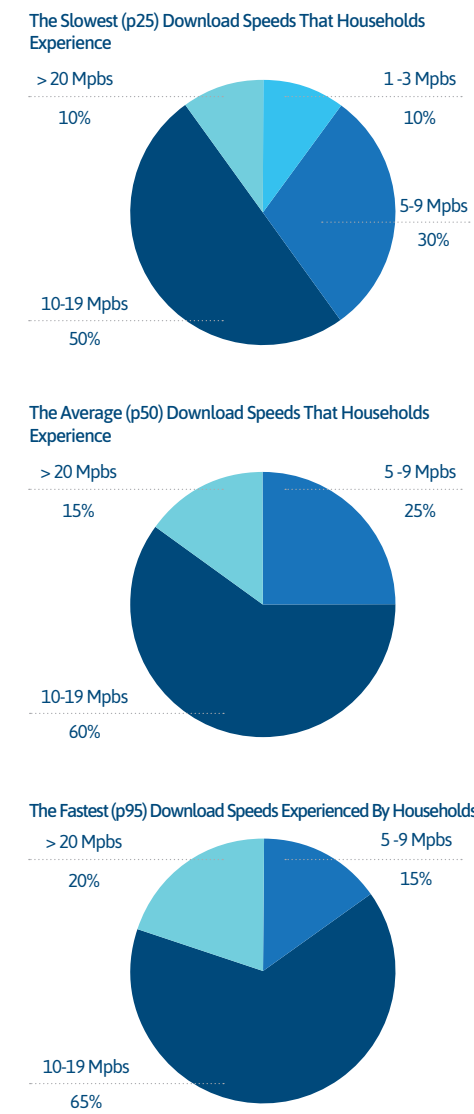
0% of Households Paying <= $20: 65%

Image 1: Mockup of a dashboard displaying ISP Metrics per Target Neighborhood: In this mockup, we propose that ISPs report on the most important digital equity metrics – namely, how many households that ISP has successfully connected over time, average monthly subscription paid to the ISP in that specific neighborhood, and percent of households paying under a target, affordable threshold. Additionally, the ISP should report on its progress to install necessary infrastructure in the neighborhood, which can indicate how it will continually add more households over time.

Download Speeds

The Slowest (p25) Download Speeds That Households Experience

> 20 Mpbs 10% · 1-3 Mpbs 10% · 5-9 Mpbs 30% · 10-19 Mpbs 50%

The Average (p50) Download Speeds That Households Experience

> 20 Mpbs 15% · 5-9 Mpbs 25% · 10-19 Mpbs 60%

The Fastest (p95) Download Speeds Experienced By Households

> 20 Mpbs 20% · 5-9 Mpbs 15% · 10-19 Mpbs 65%

Upload Speeds

The Slowest (p25) Upload Speeds That Households Experience

> 20 Mpbs 8% · 1-3 Mpbs 12% · 5-9 Mpbs 25% · 10-19 Mpbs 55%

The Average (p50) Upload Speeds That Households Experience

> 20 Mpbs 15% · 5-9 Mpbs 25% · 10-19 Mpbs 55%

The Fastest (p95) Upload Speeds Experienced By Households

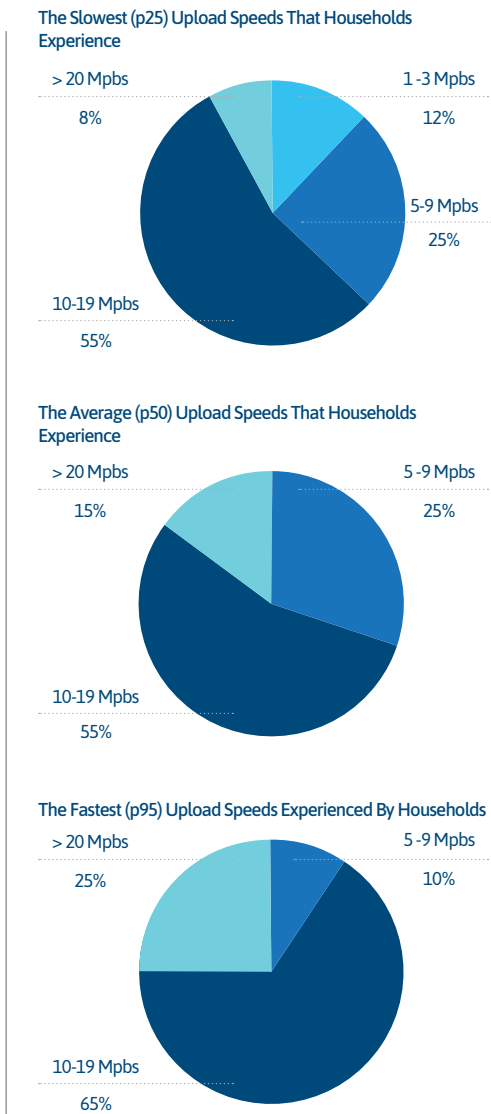> 20 Mpbs 25% · 5-9 Mpbs 10% · 10-19 Mpbs 65%

Image 2: Mockup of a dashboard displaying ISP Metrics per Target Neighborhood. Image 2 suggests a format for reporting on Download and Upload speeds achieved by the ISP, in the reported neighborhood, over the prior quarter. This set of graphs highlights how well the ISP is doing overall at a glance in servicing the households in the neighborhood.

Meeting Outcomes

After each Quarterly Review meeting, the City should publish the presented metrics and minutes from the meeting publicly, and ensure that all relevant departments engaging with the reviewed ISPs are promptly updated about the meeting outcomes.

Publishing the meeting outcomes might entail:

▸ Drafting a written one-page synthesis of the meeting and metrics delivered;

▸ Posting the synthesis, a video recording of the meeting, and a copy of each ISP's metrics report to a publicly available webpage maintained by MOCTO; and

▸ Sending all of the items generated above in #2 by email to the CTO, the MOCTO Chief of Staff, and all departments engaging with the reviewed ISPs.

Measuring Success

In addition to evaluating the ISPs, the City should also routinely assess whether its meeting procedure can be improved. The City can evaluate whether the Quarterly Review is serving its function by evaluating the rate of progress of the ISPs over time against the metrics. An effective Quarterly Review would provide useful metrics evaluating whether ISPs are actively hitting their goal metrics and are improving over time.

Image by Jiarong Deng

Section 3: Using the Outcomes of Quarterly Performance Evaluations to Award Future Contracts

Overview

The City should use the data reviewed in its Quarterly ISP Performance Reviews to inform future decisions of which ISPs should win new agreements under the Internet Master Plan, and which ISPs should not be allowed to continue operating. In this way, the City could either supercharge or severely limit an ISP's growth of monthly subscribers – a key metric that any company (and particularly growth stage companies) is keen to optimize. If the City uses its power to influence the ISP's subscriber growth, it has a powerful rewards and penalties system at its disposal.

Rationale

Many of the ISPs that have been awarded agreements through the Universal Solicitation for Broadband RFP are smaller providers looking to grow their subscriber bases. These ISPs must prove to their investors that they are on a path to fast and economical growth, and that they have a strategic and lasting advantage over other ISPs. The City could strategically help ISPs to grow their bases in NYC, on the condition that the ISPs are fulfilling their promises to provide affordable broadband in target neighborhoods. However, the City should also limit ISPs' growth potential (or potentially shrink ISPs' subscriber bases) if they are not fulfilling the objectives of the Internet Master Plan.

Risks

This tactic is most powerful when the subscribers in target neighborhoods – current and future ones – make up a larger portion of an ISP's total subscriber base. The larger the percentage of an ISP's subscriber base that the City has influence over, the more powerful this tool is.

However, this tactic has other limitations to consider. If the threat of punishment is too strong, ISPs may not be willing to engage in the RFP process

Image by Joshua Sortino

at all, or they might prioritize serving other populations when they have the chance to do so. And, if taken to the extreme, MOCTO could be perceived as an adversarial government agency. In that case, ISPs and their investors might not see the agency as an ally in achieving the company's growth goals, possibly leading investors to discount the value of growing subscribers in NYC – a counterproductive outcome.

Future Potential

By striking the right balance between punitive and rewarding measures, the City can achieve a balanced partnership with the ISPs that are granted agreements under the Internet Master Plan. This practice could then be turned into a playbook for other NYC agencies to follow in awarding contracts and holding vendors accountable.

Implementation

The City should reward ISPs that perform well in their Quarterly Reviews by enabling the providers' footprint to grow within the city and beyond. In contrast, ISPs that do not perform well in their Quarterly Reviews should not gain the City's support in growing their footprints and, if they are performing extremely poorly, should be forced to shrink their footprints. The City should create a Digital Equity Score and Digital Equity Rating to provide ISPs feedback on how they are doing.

The City has many ways to support or block ISP growth, including awarding franchise agreements; granting permits (such as for construction or rights-of-way); deploying city personnel or equipment for construction; and deploying funds via grants or contracts. In the near term, we propose that the City use its influence over future contracts awarded as part of the Universal Solicitation for Broadband as the incentive.

As mentioned in the risks above, the City should ensure that its actions are perceived as fair, consistent, and well-considered. If ISPs believe that the City is overly punitive, then they may not want to respond to future RFPs at all. For example, if the City sees that an ISP is connecting fewer than expected households in target neighborhoods per quarter and immediately cancels their contract, this might signal to other ISPs that business opportunities in those target neighborhoods are incredibly risky and not worth the trouble.

It is important that the City also take other considerations into account before rewarding and penalizing ISPs. For one, an ISP's ability to perform well against the defined metrics quarter over quarter can be highly dependent on external factors. For example, environmental issues or broader power or service outages may cause sudden prolonged internet outages, impacting the ISP's ability to provide good uptime.

Additionally, doing well against one set of metrics may lead to a decline in other measures. For example, when an ISP first expands its service into a new area, customer service metrics may fluctuate due to the newly connected population. For this reason, we recommend the establishment of a score that can capture some of these nuances and balance current performance versus historical. We call this score the ISP Digital Equity Score, and recommend that it be used to make decisions on current and future contracts with a given ISP.

Rewards and Punitive Actions to Motivate ISPs

As mentioned above, we recommend that in the near term, the City use its authority over contracts awarded under the Universal Solicitation for Broadband to motivate ISPs.

Based on an ISP's performance at its Quarterly Performance Review, the City could:

‣ Make the ISP a 'highly recommended' vendor for new contracts under the Universal Solicitation for Broadband;

‣ Make the ISP a 'not recommended' vendor for new contracts. These ISPs could still apply and win a contract under the Universal Solicitation for Broadband, but would be at a competitive disadvantage;

‣ Blacklist the ISP. These vendors would not be allowed to win future contracts under the Universal Solicitation for Broadband, either for a set period of time, or indefinitely; or

‣ Take no action. The ISP is performing at a neutral rating, and therefore deserves no additional reward or penalty.

The Digital Equity Rating and Digital Equity Scoring System

To create a system that is easy to understand for ISPs, we recommend that the City establish a Digital Equity Score and an associated Digital Equity Rating, analogous to the FICO Credit Score and Credit Ratings system. While the four potential contract actions that MOCTO could take should provide motivation to the ISP, the score and ratings should provide additional incentives as well as more granular feedback.

Image by Ezequiel da Silva
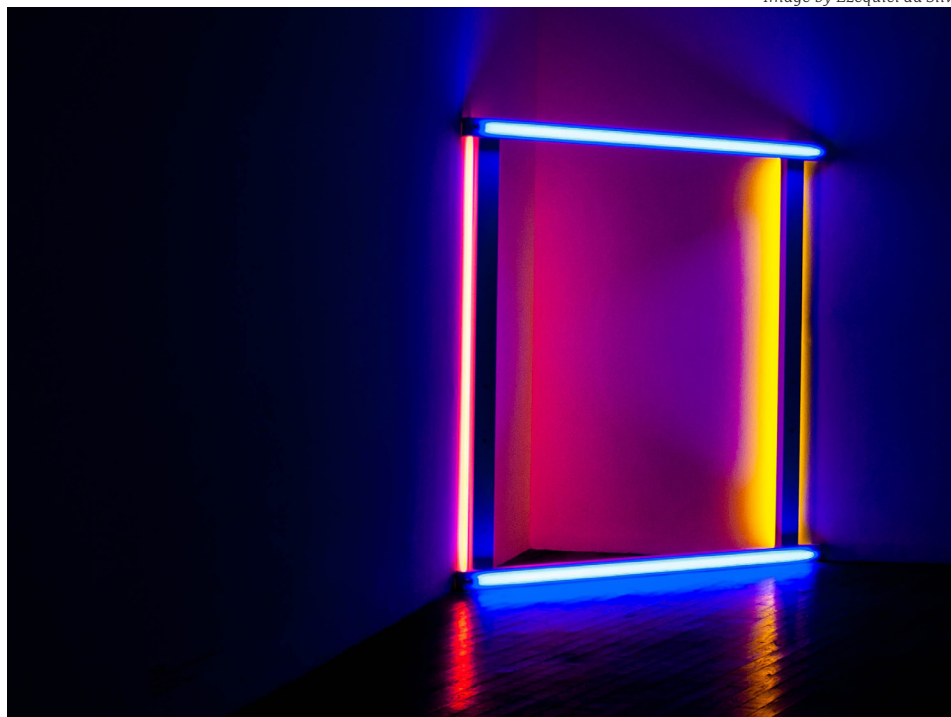
Below are some high-level recommendations for the design of the Digital Equity Rating and associated Digital Equity Score:

(Note it is up to the City to establish and define the ratings and the scores in detail. This detailed design includes establishing a more complete list of behaviors to encourage or discourage, deciding on the score range, establishing the value of each behavior or outcome, and deciding on the thresholds at which certain rewards or punitive actions are taken. The City should also establish test cases to validate the score design.)

The ratings system should align with the four rewards and punitive actions defined above. The ratings should act as a way to translate the menu of actions into a user-friendly table that ISPs can understand. See the chart below for an example.

Digital Equity Rating	Definition & Action
Good	ISP is a **recommended vendor** for new contracts granted under the Universal Solicitation for Broadband. ISP is given a positive score for future RFP Evaluation Criteria.
Neutral	ISP has a **neutral rating** and gains **no advantage or disadvantage towards** new contracts granted under the Universal Solicitation for Broadband. ISP is given a neutral score for future RFP Evaluation Criteria.
Underperforming	ISP has an **unfavorable rating**, and is at a disadvantage when competing for new contracts issued under the Universal Solicitation for Broadband. ISP is given a negative score for future RFP Evaluation Criteria.
Failing	ISP is **blacklisted**. This ISP is failing so badly that it will not be considered for future contracts under the Universal Solicitation for Broadband. ISP is given a very negative score for future RFP Evaluation Criteria.
No Rating	There is not enough historical information about the ISP's performance to issue a formal rating.

The ISP's expansion prospects within New York City should also align with the Digital Equity Rating as follows:

Digital Equity Rating	ISP's Ability to Expand
Rapid Expansion Supported by the City	Good
Slow Expansion Not limited or supported by City	Neutral
No Expansion Limited by City	Underperforming
Shrink Territory Actively mitigated by City	Failing

The score should provide higher granularity feedback and motivate ISPs to demonstrate specific behaviors over time.

Digital Equity Scores could give ISPs more specific feedback every quarter, and motivate them to continue to improve even if their overall rating remains the same. Much like the FICO Credit Score and associated Credit Rating, the Digital Equity scores should enable recipients to understand their performance trends and anticipate future rating changes.

Here is an example of how the score and rating could align.

Digital Equity Score	Digital Equity Rating
80-100	Good
60-79	Neutral
20-59	Underperforming
0-19	Failing

The ISP Digital Equity Score should incentivize ISPs towards these behaviors:

- To connect those who are not yet connected within the target neighborhoods;
- To continue to improve performance along any and all metrics as outlined by the City;
- To maintain any good performance already achieved;

- To report accurate data to the City, even when the data shows the ISP in an unfavorable light;
- To explain any substandard performance or dips in performance metrics with data; and
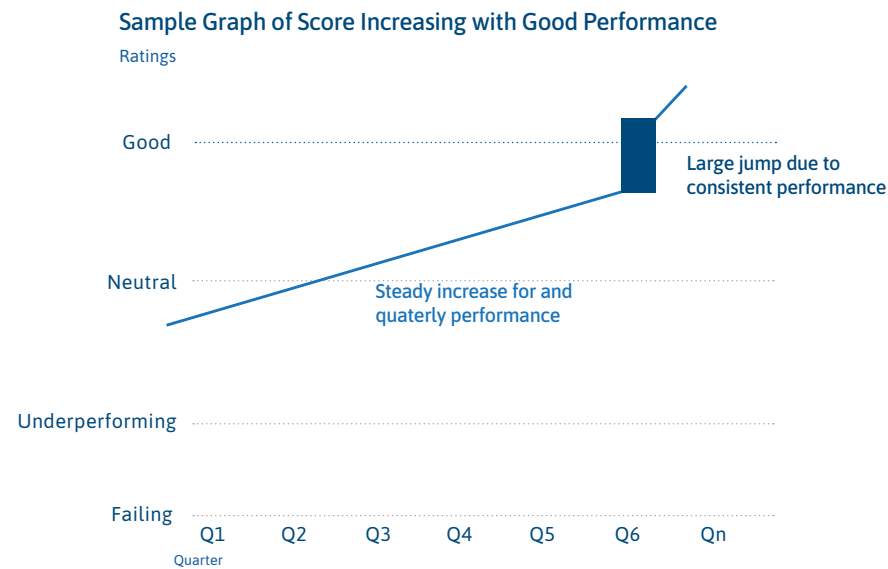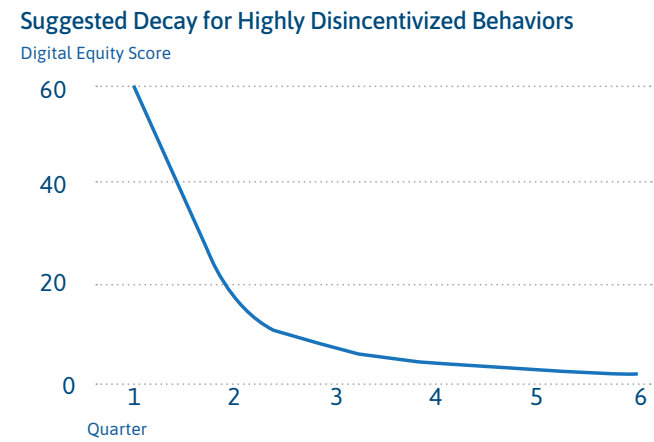- To fix egregious performance issues with urgency.

Note that many of these behaviors take current and historical performance into account. In this way, the proposed score would be analogous to the FICO Credit Score.

The score should have public characteristics but the exact calculation method should not be disclosed.

To ensure that ISPs know how to earn better scores and ratings, the scoring and rating system should have publicly defined characteristics. However, we recommend that the exact calculation methods not be disclosed so that the City can adjust the formulas if necessary.

Sample disclosures of factors affecting Digital Equity Scores:

- Highly undesirable behaviors would result in large drops in an ISP's score quarter over quarter. These behaviors include:
  - Egregiously substandard performance;
  - Unexplained drops in performance;
  - Submission of fraudulent data; and
  - Failure to report data, or reporting mostly incomplete data.
- Undesirable outcomes would incur slower drops in an ISP's score quarter over quarter. These outcomes include:
  - Continued substandard performance, in which each metric has a defined threshold for what substandard means; and
  - Omission of data for specific metrics, in the event that most metrics are otherwise reported.
- Desirable outcomes would result in a steady increase in an ISP's score quarter over quarter. These outcomes include:
  - Acceptable performance according to quarterly metrics.
- Highly desirable behaviors and outcomes would result in larger increases in the ISP score. These behaviors and outcomes include:
  - Consistent performance over multiple quarters;
  - Consistent improvement over multiple quarters; and
  - Consistent ability to explain changes in reported metrics with data.

Suggested Decay for Highly Disincentivized Behaviors

Digital Equity Score

Sample Graph of Score Increasing with Good Performance

Ratings

Large jump due to
consistent performance

Steady increase for and
quaterly performance

Images 3 and 4: Sample Digital Equity Score Growth. These images above show growth and decay curves that result from two sample scenarios. Image 3 (top) shows a suggested decay curve when the ISP engages in highly disincentivized behaviors. Image 4 (bottom) shows a suggested growth trajectory when the ISP consistently performs well.

The scores and ratings should be calculated and published soon after quarterly meetings.

As soon as practical, the City should calculate and publish ISPs' Digital Equity Scores and Ratings, along with any associated actions taken to reward or penalize specific vendors. The City should notify ISPs individually of their ratings and the high-level rationale for these categorizations, and ensure that the ISPs understand the ramifications of their scores and how to improve them.
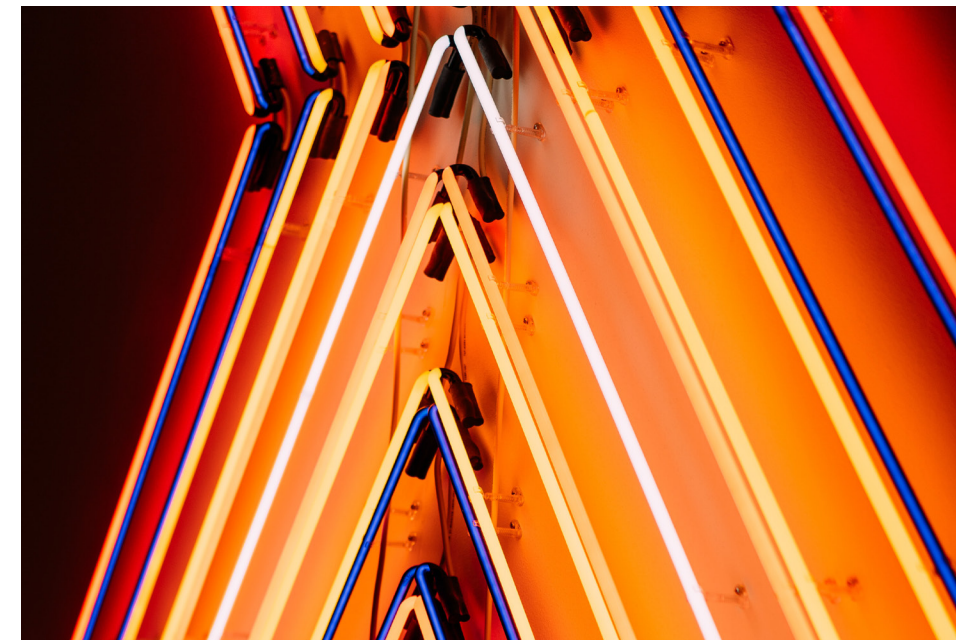

Image by Ezequiel da Silva

Section 4: Ensuring That Established Digital Equity Metrics are Included in Future ISP Contracts and by Other Government Agencies

Overview and Rationale

ISPs do not report progress on broadband implementation to the City in a standardized way. As a result, it is difficult for MOCTO to have a clear understanding of the broadband gaps in target communities, or to compare ISPs in an apples-to-apples way.

To address this, all new ISP contracts should include a requirement to report progress of broadband implementation to MOCTO through a standard reporting mechanism.

There are a few challenges to accomplishing this, including that (1) ISPs may be reluctant to share their data; (2) ISPs may be reluctant to share data in a standardized way; and (3) the City may not be able to combine datasets from ISPs into one geographical visualization. The benefits, however, outweigh the challenges through the ability to track standardized data from each ISP over time, and to ensure all ISPs contracted with MOCTO are required to provide the data.

Implementation

The City could use the below instructions to have ISPs report their metrics in a standardized way:

1. Use the metrics developed in Section 1 as the Baseline List of Reporting Metrics.

2. Advocate for an executive order from the Mayor's Office, requiring that the Baseline List of Reporting Metrics be included in all new contracts with ISPs across all city agencies.

3. Alert other agencies of the new policy and point them to the list of metrics.

4. Request that all agencies provide MOCTO with an electronic copy of all executed or drafted contracts with ISPs related to broadband expansion.

5. Create a log of neighborhoods with ongoing ISP contracts and what phase of execution they are in.

6. Create a universal tracker through which ISPs can self-report their data.

7. Meet with agencies at least once a month to review contracts and work through any challenges.

8. Update the log of ISP contracts every month to track progress of ISP reporting requirements.

9. Update a central tracker to document overall progress against the IMP. See sample tracker here.

10. Share updates with MOCTO and Mayor's office.

Image by Ezequiel da Silva

Section 5: Communicating the Impact of Digital Equity Broadband Initiatives to the Mayor and NYC Residents

Overview and Rationale

As the City is currently executing the most ambitious program to close the digital divide in the nation, a comprehensive public media campaign should be considered to support these efforts. This media campaign should include dedicated components for affected communities, New Yorkers, the City, and beyond. A public media campaign could target two groups: affected communities, and New York City agencies and residents more broadly.

For Affected Communities

A public media campaign should focus on the stories of directly affected communities. New Yorkers who are positively affected by the broadband deployments of the IMP likely have powerful stories to share. These stories can be valuable tools to drive further adoption within their communities. The challenge for the City is finding adoption success stories and communicating them across the community.

MOCTO has already demonstrated the ability to deploy effective public communication campaigns through its Connected NYCHA: Older Adults effort, which has the goal of delivering 10,000 internet-connected devices to the senior residents of the City. As part of the NYCHA initiative, MOCTO collected quotes from users who received tablets, and posted those stories on its website. That small step was useful in motivating other eligible adults to enroll in the NYCHA program, but it only reached users of the MOCTO website. Building on lessons from the NYCHA initiative, the City could leverage storytelling further to drive broadband adoption in its target neighborhoods. Publicizing success stories would be mutually beneficial for residents and service providers alike, and could offer another incentive for providers to deliver good performance.

Implementation

The City could collect and share stories from affected communities in four steps:

1. **Define quarterly winners.** The data collected through the Quarterly Performance Reviews in Section 2 and the Digital Equity ratings calculated in Section 3 would provide clear indicators of where successful digital broadband deployment is occurring under the RFP. The City should select the top performing ISPs for each quarter, and then focus media efforts on the targeted communities these ISPs serve.

2. **Challenge the media to find the best story.** Next, the City should announce a "30 Day Media Challenge" to find success stories about residents the top performing ISPs have. The Media Challenge should be focused on having residents answer the question: "How did new broadband change my life?" The City can leverage the same resources it did to collect user quotes for the NYCHA effort, or if required, offer rights to publish stories to media partners supporting the Broadband RFP. Ideally, media partners will compete to generate the best stories from each community. In addition to drawing out the best stories of users, the media focus could also include general anecdotal data about how deployments are affecting communities, and could help surface any issues that need to be corrected, providing an additional feedback loop to the City.

3. **Evaluate media challenge results.** The City should then evaluate the stories received from media, and select the one(s) that will be most impactful in generating additional users within the community.

4. **Distribute stories.** In addition to sharing stories on MOCTO's website, the stories should also be amplified through media outlets and by community leaders for maximum reach. Though the main purpose of the storytelling is to drive adoption among users, the stories would also be seen as a lucrative advertising opportunity for providers. This would especially benefit providers focused on providing the best service at the lowest cost, such as the nonprofit providers who do not have significant advertising budgets. The stories should be delivered across as many channels as possible, including print and social media.

For New York Agencies and Residents Broadly

Results Sharing

The RFP represents a significant investment by New Yorker City taxpayers. Each quarter, after the ISP Performance Reviews, the City should be responsible for publicly disclosing the data and notes from the meeting, and for ensuring that the departments which contract with the reviewed ISPs receive prompt updates. Communicating results and progress of the RFP to other city agencies (such as the Department of Small Business and the New York City Economic Development Corporation) regularly is critical to get buy-in necessary to make this program a success.

Results Sharing Implementation

The City should update city agencies and residents via two steps:

1. **Draft a one-pager for other city agencies.** This one-pager would include metrics of each of the ISPs, and who the highest and lowest performers are. The one-pager should also include best practices of ISPs. This one-pager should be delivered to all city agencies within two weeks of the Quarterly Performance Review. Subsequent meetings between agencies may be set up to discuss how these metrics are affecting contract maintenance.

2. **Draft a public one page report.** This one-page, publicly available report would describe all the participating ISPs and the areas they are servicing, and identify them with a simplified ranking system (red, yellow, green or other) that is easily understood by the public. By making these rankings publicly accessible, providers may be incentivized to compete for better metrics. It will also allow New Yorkers to understand how digital equity is improving.

Lessons Sharing

As the City implements the performance management system and makes improvements, it should also capture these lessons and distribute them widely for other agencies to benefit from best practices.
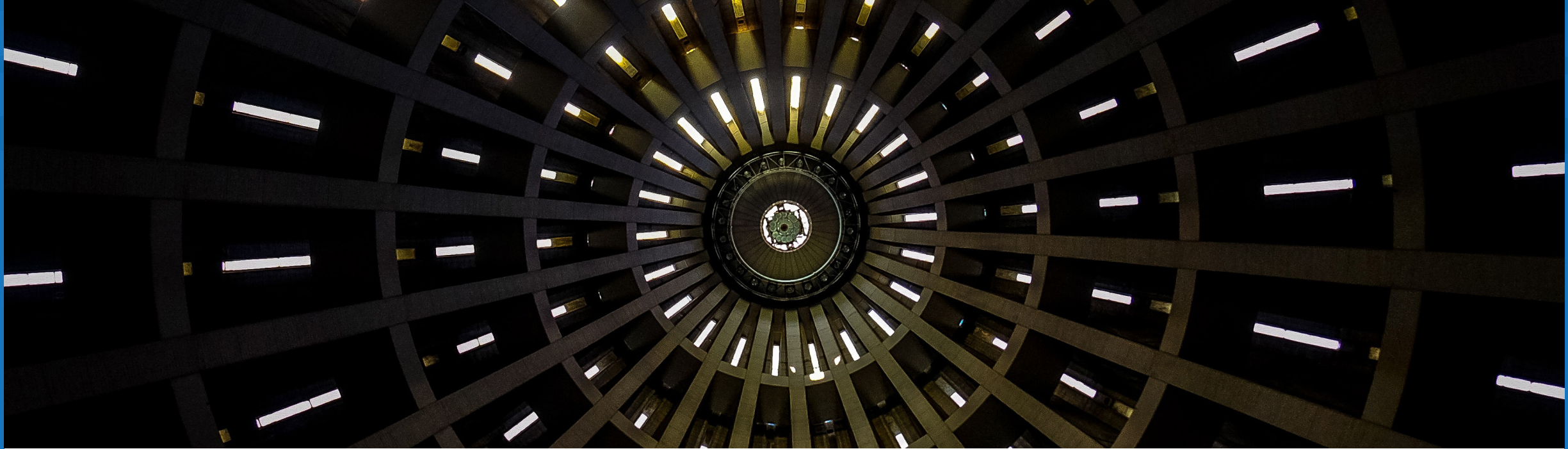
Image by Francesco Ungaro

Lessons Sharing Implementation

1. **Collect lessons learned from across NYC agencies.** All NYC agencies participating in the RFP will be exposed to problems and challenges throughout NYC government stakeholder interaction. The City should collect and record these lessons in detail for shared learning. If many challenges are reported, the City might consider establishing a separate meeting for running through these responses.

2. **Act on critical needs.** The responses collected in Step 1 might reveal difficult situations in which action must be taken immediately. In this case, the City should call a stakeholder meeting to ensure that critical needs are mitigated, and that the positions of all the stakeholders involved are documented.

3. **Collation and Review.** At the end of the RFP, the City should document all the reported lessons in a single repository for review. The City should share the preliminary list of lessons learned with all the NYC agency stakeholders, and ask for additional inputs. Depending on the success of this documentation process, the City may consider hosting a conference to review the results and facilitate additional reflections.

4. **Publish lessons learned.** Finally, the City should publish a study summarizing the most valuable changes made within the City, the estimated total value, and any recommended further changes to NYC policy. This study should include inputs from all NYC agency stakeholders.

For the Country

As NYC's digital equity initiatives bear fruit, MOCTO should provide the rest of the country with a roadmap to follow. The City should apply a similar media strategy to the ones outlined above but adapt materials to be public–facing and targeted to other cities.

Conclusion

The City of New York has a tremendous opportunity to transform broadband equity, not only for New Yorkers, but also for residents across the country. As it disburses its record–setting investment and awards new contracts, the City should make sure to couple these actions with a thoughtful management system. Such a management system, guided by the principles outlined in this operational plan, would be an enormous asset to the City in closing the digital divide.

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