Bridging Internet Inequality in NYC

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Overview

New York City has long been held as the cultural and economic capital of the United States. Once fueled by the 'tired, poor, huddled masses' who disembarked on her shores seeking the American dream, the city now boasts of more millionaires than any other city in the world.

reference

- back up w/ a reference/ footnote

But the last few decades have seen corporate skyscrapers dwarf the Statue of Liberty and this former first-stop for immigrants is fast becoming too expensive for even citizens who have lived here all their lives. The present administration, led by Mayor Bill de Blasio, came to power with the rhetoric that they would bridge the divide between Wall Street and Main Street. They have followed up on this by introducing measures such as equitable housing, universal Pre-K and LinkNYC. These policies are aimed at providing equality for all New Yorkers in access to opportunities to provide for their families.

One of the most important steps in that direction is equality of access to broadband Internet. The democratization of information and opportunity that the Internet provides makes it one of the most powerful ways of reducing inequality in the city.

However, the 2013 American Community Survey Report estimates 40 percent of New Yorkers less than a high school education lack broadband at home compared to 11 percent of New Yorkers with a bachelor's or advanced degree, and the 15th Congressional District (Bronx) has the highest percentage of households without broadband at 36 percent, while the 12th Congressional District (Upper East Side/Queens) has the fewest households without broadband at 15 percent.

good, fact-based background

add page #s

This disparity in Internet access is not just a function of education status or geography. New York City has one of the poorest internet speed-to-cost ratios of the major cities in the world, ranking 20th in the 24 cities listed in the Open Technology Initiative's Cost of Technology report.

A policy brief from the Office of the Comptroller of New York City stated:

> "Access to the Internet is the fourth utility of the modern age—as central to our daily lives as electricity, gas and water. Yet high-speed Internet and the connections it facilitates to education, employment, culture, and commerce remain beyond the reach of millions of New Yorkers."

In this setting, on the occasion of Internet Week 2014, Mayor de Blasio announced some key initiatives to reduce inequality of access to broadband. These included funding free outdoor Wi-Fi in Harlem, and the transformation of payphones into Wi-Fi hotspots.

While the rhetoric of these messages is long awaited, the proof of the pudding is in the bytes. In a call for a 'Broadband Bill of Rights', comptroller Scott Stringer and each of the five borough presidents hailed the initiative to bring broadband to the masses but expressed concern that the implementation be done in a way that would bring equity to New Yorkers, rather than widen the gap. excellent operational point - very important to your argument.

Our proposal aims to aid in this effort by identifying key areas in the city where Broadband access is disproportionately low, creating an index of such areas which accounts for other markers of marginalization, including race, economic status and educational attainment.

↳ what unit of geography?

Q: do we know how many (i.e. a certain number) new yorkers this is?

This is an important detail to fig ure out. Make sure it links back to how the initiative works / is carried out. This is how you determine your unit of analysis.

Objective and Goals

Problem Statement:

The stated objective of LinkNYC is to provide equitable access of high speed Internet to all communities irrespective of economic status or location. However, we see that LinkNYC has started to roll out in central Manhattan and has plans to install more posts in and around the same area, where internet penetration is at its highest in New York City.

While public pay phone locations may never have been the solution to solving the broadband equity problems of NYC, the current situation has been dire enough to warrant a demand for a broadband bill of rights from the boroughs, and has led to the 2015 'Call for Innovations' from the Mayor's office. The crux of the problem lies in the Department of Information Technology and Telecommunications ("DOITT") finding the most equitable way of rolling out these initiatives, so that the areas and people with the most need are targeted first.

How, if it at all does the Mayor's office of Technology Innovation (MOTI) fit

Project Objectives:

This project aims to help DOITT by providing it with a 'priority index' of locations across the five boroughs of NYC. This 'priority index' would supplement the existing knowledge base of DOITT and other civic agencies for providing equitable access to high speed internet to NYC residents.

what type? get more specific on locations and type of priority

Conceptual Approach and Methods:

We base our study on the American community Survey (ACS) of 2013, which has recorded data related to computer ownership and Internet access. We also have access to demographics and income levels data (from ACS) for all census tracts across NYC. This

data will be our main input to develop a metric to identify and rank the different locations in NYC according to their digital disparity and need. Apart from this, we have spatial data of the payphone locations of NYC, which we would use in combination with ACS data to provide the priority list for an equitable execution of the LinkNYC project. Also, we would use the location data of public infrastructure (including schools, colleges, parks, and other government buildings) to provide DOITT with recommendations on how to engage the private telecom players and utilize this infrastructure to expand broadband coverage to remote areas.

data list
ACS
payphone
public bldgs
would LODES data be relevant?

*End Analysis product(s) (including format) - this info wasn't included beyond the index mentioned in the project objective. Tell me more about this index. Is it a list, a chart? Is it interactive? What info will it include.

Data Inventory

Sources, type and size of methods

In order to provide a 'priority index' of locations in NYC, we plan to use current internet infrastructure data such as public Wi-Fi locations, payphone booth locations, and NYCHA digital service coverage, to analyze the internet availability density in different locations. By doing so, we can help DOITT to prioritize their target areas for the execution of LinkNYC and other internet inequality-related projects. Secondly, we intend to access to demographics and economics data across five boroughs in NYC. Median income, percentage of families under poverty line and other demographic information will be used to help develop the ranking metric for all locations in NYC. In addition, we will synchronize the metric with another layer, consisting of public infrastructure data including parks, schools, and government buildings. One reason for doing this is to make use of available public infrastructure for the broadband expansion. Apart from that, we also wish to make efforts to ensure that the expansion will benefit the public, especially in terms of education and economy.

what might these be? If you can't specify them, take this out. If you can, make sure they are relevant + have same needs as LINKNYC

at what level? bldg? block?

how exactly - specify terms

Is there an opportunity to consider synchronizing other planned public infrastructure work on roads/sewers with laying down new data infrastructure at the same time? If this is possible, how would this factor into your prioritization?

Method of access

Most of the data will be based on the American Community Survey (ACS) since they have provided information on computer ownership and internet accessibility. Apart from that, we also have access to data from DOITT, U.S. Census, NYC OpenData, and New York State data for demographic, economic, educational, and geospatial data.

Limitations or risks

Two major limitations for the data collection in this project have been identified. The first is the lack of micro-level data information. For example, when considering all payphone booths as potentially available Wi-Fi hotspots, we do not have detailed information on the sequence of hotspot implementation across different boroughs in NYC. The second limitation is the difficulty in access to private/confidential datasets, such as the existing infrastructure of Time Warner cable or FiOS in New York, which would help us identify broadband deserts.

can anything proxy? When TWC or Verizon installs or upgrade service, do the dig up the sidewalk or street? Is this in DOT data?

Additional Considerations:

Ethics – what are the ethical considerations in prioritizing access to some individuals over others? How does your methodology treat this?

Private operators need to be willing to share the infrastructure load with DOITT for carrying out this project.

Resource Needs – what resources might DOITT or the City need to utilize and implement your work?

We would need access to information of current infrastructure deployed across the city (locations where access points are available) by private operators like Verizon, T-Mobile, Times warner cable etc. to correctly estimate the gap in the broadband coverage in different parts of the city.

Privacy – any privacy or identification concerns with this project or with combining different datasets together? If none, say so.

References:

ACS data:

https://www.census.gov/programs-surveys/acs/data.html

DOITT data access:

http://www1.nyc.gov/site/doitt/initiatives/open-data.page

NYS Broadband data:

http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1200

Public infrastructure data:

http://library.columbia.edu/locations/dssc/data/nyc.html

Expanding NYC's Broadband Connectivity

http://www.nycedc.com/press-release/mayor-bloomberg-and-speaker-quinn-announce-new-initiatives-expand-new-york-city-s

Available or potentially-available public Wi-Fi location data:

https://data.cityofnewyork.us/Social-Services/NYC-Wi-Fi-Hotspot-Locations/a9we-mtpn

https://data.cityofnewyork.us/Social-Services/Public-Pay-Telephone-Locations/t7sx-id53

Public Wifi policy discussion:

http://comptroller.nyc.gov/newsroom/comptroller-stringer-and-borough-presidents-diaz-adams-brewer-katz-and-oddo-call-for-five-borough-broadband-bill-of-rights-on-public-wi-fi-agreement/

Overall this is a strong start to the SIP. You make a very convincing case for the topic and problem. Your argument is clear. There are notes throughout, all of which are to encourage you to get more specific. For example, how is "priority" defined and calculated? Is it actually a "need" index, which allows for prioritization? Prioritization of what exactly? How else could "need" be quantified?

I'd also like to know, if DOITT followed the index, what would you expect the new access to broadband to look like - what is the expected impact of 1 new location, of following the index? To this end, you may want to include a very brief explanation of the technology infrastructure - for example, how far is the reach of a LinkNYC payphone site signal? What types of speeds are facilitated? over →

There were a few sections missing from the Summary, namely the description of proposed end analysis products (+ format). This is an important piece of the project. Please consider what this might look like and how it relates back to solving your problem as stated.