COMMENTS ON IMPROVING NTIA INTERNET AVAILABILITY AND USE DATA IN LOCAL COMMUNITY DISTRICTS

July 16, 2018

By Layton Olson, Safe and Healthy Communities Project, Internet Public Trust

Cook County Illinois, Berrien County Michigan and DeKalb County Alabama

With resources from Bridging the Digital Divide Coalition and Civic Innovation Legacy Network (arising from Community Intervention 1998-1999

Ameritech Illinois-SBC Merger and Illinois Eliminate the Digital Divide Grant and Infrastructure Programs) and

Community Connector News Network and Local Place Area Association-in-Development project, and with

Media Incubator partnership project.

With the assistance over the years in Internet tools, skills and infrastructure:

Pierre Clark

Co-founder, Chicago Digital Access Alliance Inc.

Founder, Connect Woodlawn Inc./Woodlawn Broadband Expansion Partnership L3C

Founder, Illinois 21st Century Digital Futures Alliance NFP

Website: http://www.digitalexcellence.net

312-970-0249

Dr. Jerry Field (Ed.D)

Executive Vice President

J B Burling Group, Ltd

Charles Boyce

Mae/Johnny Communications

Syndicated cartoonist, and creator of the KeyPad Kid character for assisting new users of cell telephones in

early 2000's for California Public Utilities Commission in its public outreach campaign.

www.gocomics.com/compu-toon

http://thekeypadkid.blogspot.com/

https://www.facebook.com/The-KeyPad-Kid-Project-75815548937/

Victory Bell, Business Consultant

President, Southwest Rockford CDC

Innovatech IT Services Solutions LLC, Rockford, Illinois

http://www.innovatechweb.com/

Retired from Ameritech in 1987 after 33 years

Alderman in Rockford, Illinois for 38 years

Chairman, Planning & Finance Department, City of Rockford

when Fiber was connected from Oakbrook Toll 88 to Rockford

Responses to Questions:

1. Identifying additional broadband availability data:

a. What additional data on broadband availability are available from federal, state, not-for-profit, academic, or private-sector sources to

augment the FCC Form 477 data set?

 b. What obstacles—such as concerns about the quality, scope, or format of the data, as well as contractual, confidentiality, or data privacy

concerns—might prevent the collaborative use of such data?

See comments under 3, 5a and b.

2. Technology type, service areas, and bandwidth: Please consider providing a table or spreadsheet attachment when responding to question 2,

if needed. a. For each broadband availability data source, please define the specific broadband technologies (e.g., wireline, cable, fixed wireless,

satellite, multiple sources, etc.) included in the data set. Please explain the service areas or geographic scope of the data set (e.g., Census block,

county, cable franchises, publicly funded service areas, etc.) and

describe how records from the data set could be matched with records from Form 477 data.

b. Describe how frequently the data set is updated and the methodology used for collection and what measures are employed to validate or otherwise ensure the data is accurate. Please explain whether the data set differentiates between subscribed bandwidth and maximum available speeds.

c. For each data set, please provide the name(s) and type(s) of entity that collects the data. d. Finally, please specify the format of the data (e.g., CSV, specific database, specific Geographic Information System (GIS) format, etc.)

See comments under 3, 5a and b.

3. New approaches: Are there new approaches, tools, technologies, or methodologies that could be used to capture broadband availability data, particularly in rural areas?

Recommend using:

Smart community approaches or methodologies to combine current ISP provided availability data on a regular basis with Internet use data for Local Place Areas (NSF-defined Community Districts in census block and tract areas, in education and public safety areas, in multi utility substation areas and in commerce/community college/health service areas), to integrate standards and procedures with Internet of Things sensor data, and to do so in cooperation with Big Data university extension, community college and multi county regional planning agencies, community connector media networks and Smart State-Local initiatives.

Below are examples of Local Place Area people + data tools and methodologies which have the capacity to improve the accuracy of data reported on form 477 on a regular (monthly or semiannual) basis and to improve its usability for expanding broadband Internet access,

adoption and use as engines of innovation and productivity for all families, businesses, communities, states and regions, including in Internet extension programs targeting underserved rural and urban communities, and meeting Internet communication and IoT standards and procedures to reduce lifecycle costs of smart utilities and watershed management.

1. Census block and tract area. Alabama rural broadband program, state and local opportunity zone programs, Big Data university community partnership programs in NSF interdisciplinary research program

2. Education and local public safety areas (elementary, secondary school, municipal areas) See CAI roles and People + Data Education, Job and Family Security networks.

3. Digital economy areas (zip, community college, health service) linked in multi county regional planning areas as part of smart state-local planning and infrastructure priority setting.

4. Multi utility substation areas (water, power, gas, communication, roads).   See comments far below submitted to Illinois NextGrid Study June 8, 2018

They are based on investing and measuring returns on investments in user support and community quality of life activities of Local Community Anchor Institutions, as articulated in The Role of CAI in Smart Communities, as part of presentation in October 2018 to the national best practices conference of Schools, Health and Libraries Broadband Coalition by Greg Laudeman, Chattanooga, Tennessee

4. Validating broadband availability data:

 a. What methodologies, policies, standards, or technologies can be implemented to validate and compare various broadband availability data sources and identify and address conflicts between them?

 b. Do examples or studies of such validation exist?

c. What thresholds or benchmarks should be taken into account when validating broadband availability, such as bandwidth, latency, geographic coverage, technology type, etc.? How can conformance to such standards be used to evaluate the accuracy of broadband data sets? How could those standards be used to improve policymaking, program management, or research in broadband-related fields?

See overall methodologies involving the validity of broadband availability as part of the validation of overall availability, adoption and use data conducted in Local Place Areas by Public, Nonprofit and Private Community Anchor Institutions for specific audiences, such as for education, health, public safety, commerce and government services.

5. Identifying gaps in broadband availability:

a. What data improvements can the government implement to better identify areas with insufficient broadband capacity?

NTIA and states can highlight broadband capacity and improvement initiatives in special reports on state broadband outreach programs for rural and urban areas, including for census tract areas considered for or designated by Governors during 2018 as opportunity zones with potential for private and public investment, and internet support programs of state land grant extension programs, and community colleges, and data on Local Place Areas which have ongoing research programs in cooperation with Big Data universities, including for Internet availability, adoption and use by families, businesses and communities.

b. What other inputs should NTIA seek to inform data-driven broadband policy- and decision-making?

NTIA should integrate initiatives to improve Internet availability and use data with other NTIA and US Department of Commerce and NSF Smart and Connected Communities programs, including regular annual, semiannual, quarterly and other reports from Smart State agencies, interagency committees and state-local Community Anchor Institutions on the innovation economy in the world marketplace, as well as digital literacy, economic, social and digital government productivity, integrated cybersecurity approaches for public, private and utility sectors, including reports on state and local rural and urban Internet extension programs in cooperation with community colleges, big data universities and extension services, and with a special focus on Internet extension in low wealth rural and urban opportunity zones designated for census tracts by Governors this spring under new Federal Tax act of December 2017.

NTIA should provide Internet availability, use and analytical data to US Department of Commerce census, economic and social productivity programs, including those expanding data quality and use by public, private and research institutions and developing common tools and

community condition indicators in Community Districts, such as defined by interdisciplinary research program of NSF Smart and Connected

Communities planned for 3 year period 2019-2011.

New Approaches Resources

Question 3 examples of framework for Local Place Area combining of Internet availability and use data as tools for ISPs, families, businesses and

communities in community connector (people + data) networks

 Introduction

As an introduction to Internet extension including linking with local development, employment, health, education, public safety, government

performance and use validation, see examples of a few dozen Connected Communities as defined by

NSF Smart and Connected Communities program, working through US Ignite framework involving many advanced

software applications combining work of research institutions and commercial developers

https://www.us-ignite.org/communities/?page=1

See targeted rural broadband initiatives, such as Alabama rural broadband accessibility act (2018)

http://www.aldailynews.com/gov-ivey-signs-rural-broadband-bill-law/

As an introduction to need for integration of Internet communication data and Internet of things sensor data in census block and community

district areas, see intro to Internet of Things (2015) https://www.internetsociety.org/resources/doc/2015/iot-overview

As many core services are provided by schools, libraries and healthcare places, called Community Anchor

Institutions, see conference this fall in D.C. of SHLB (schools, healthcare, library broadband coalition)

http://www.shlb.org/

As an illustration of the importance of integrating Internet planning with process and impact evaluations of Big Data research parties, see

Purdue University evaluation of availability and use project: https://www.benton.org/headlines/digital-divide-us

As an illustration of the importance of hyper local wifi networks at highly use commercial sites, such as laundromats, see

https://www.benton.org/blog/availability-accessibility-hyper-local-public-private-

partnerships?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email

As an illustration of how broadband extension can benefit from Healthy Communities programs, especially in rural and urban chronic condition

places http://www.broadbandillinois.org/news/609

As an illustration of Moore's Law of faster, better, cheaper fiber and wireless Internet, see cost lowering technologies that will enable many

municipalities and rural areas to extend fiber to many places and towers, including in Universal Broadband for health, education, government

service and commerce. https://www.benton.org/headlines/gluing-fiber-ground-startup-thinks-it-can-slash-broadband-installation-costs-local

In defining communities by wealth-ranked census tracts, see new Opportunity Zones designated by

Governors this spring for tax assisted investments under new Tax Law enacted last December http://eig.org/opportunityzones

Alabama opportunity zones https://governor.alabama.gov/press-releases/alabamas-opportunity-zones-approved-by-u-s-treasury-department-

irs/

Illinois opportunity zones http://ima-net.org/gov-rauner-announces-opportunity-zones/

Michigan opportunity zones https://www.michigan.gov/mshda/0,4641,7-141-5587_85624---,00.html

Finally, the timely availability of Internet accessibility and use data to very local community media has the capacity to showcase opportunities

for better Internet for better lives, businesses and communities, such as in high school, college, community and general media, such as

Chicago's local neighborhood coverage via Block Club articles (with archives of dnaInfo) https://www.dnainfo.com/chicago/features/block-club-

blog/

Examples of Local Place Area initiatives linking availability and use data + people networks:

1. Neighborhood Blocks and Tracts:

Woodlawn neighborhood wifi network in development

http://connectedneighborhoodsllc.webs.com

Example of value of generating census block and tract data maps for local planning networks

(2018) https://www.policymap.com/2018/06/social-needs-index

2. Education and Public Safety areas:

Tutor Mentor networks (neighborhood and school data tools) (2018) http://www.tutormentorconnection.org/

Chikaming Township Code Red alert network (2018)

www.harborcountry-news.com/news/chikaming-township-adopts-codered-mass-notification-and-alert-system/article_5d4320d0-6f33-11e8-8ad2-97f977b1e963.html

Chicago plans 911 text/image dispatch, new fees (2017)

 https://statescoop.com/911-with-text-images-and-video-chicago-chases-next-gen-public-safety-system

http://www.chicagotribune.com/news/local/politics/ct-chicago-911-system-replacement-met-0425-20170424-story.html

3. Commerce Innovation and Health areas:

Smart Bronzeville South Lakefront Planning Area https://www.facebook.com/BronzevilleSmart/

Eduity job mapping local area network https://blog.eduity.net/

Western NY and Buffalo Healthiest District http://www.healthycommunitynetwork.com/about-us.html

4. Multi utility habitation and service areas:

Comments to Illinois NextGrid Study (2018) See below

Amtrak and railroad towers https://www.fiercewireless.com/tech/updated-amtrak-track-its-own-private-wireless-network-and-wi-fi-overhaul

Smarter state: local lighting districts technical assistance (2018) https://www2.illinois.gov/sites/doit/media/events/Pages/20180815-smartlighting.aspx

----

Comment on methodology for use of Multi utility districts as Local Place Area building blocks, along with Neighborhood Community Districts

(census blocks or tracts), Education and Public Safety Areas, Commerce, Community College, Health and Regional Planning areas.

Comments of Layton Olson, Internet Public Trust, submitted June 8, 2018 to Next Grid Illinois as issues for Community Participation and

Regulation and Environment working groups.

Issues for NextGrid Utility of the Future Illinois Commerce Commission study to address

The adoption of multi utility framework for Smart Community utilities and community districts of the future, including frameworks for

cooperation in mapping, cybersecurity, tracking usage and other data, service quality and coordinated regulation and simplified reporting in

community-centric public and private investment and civic engagement, all designed for data driven and transparent productivity

including lower costs, improved quality and world Digital Economy competitiveness. Including integration of investment, outreach, evaluation and community dashboards in Smart Communities at census tract, utility, school and local commerce community district areas, and linked with universal Basic Internet service use (target 95-98% similar to and greater than TV penetration) for health, education, public safety and commerce, based on Illinois Smarter State leadership, and national broadband plan and cybersecurity framework for utilities and other critical infrastructure.

Background of qualifications and capabilities of Internet Public Trust and linked networks beginning with City Innovation as community-business-education-health-government-media partnership in 1995, and Resources

Internet Public Trust arises from over 20 years of work in the field of Telecommunication and Economic Development initially in underinvested rust belt communities of Far South Chicago, South Cook County and Northwest Indiana, and in Community Intervention in Ameritech Illinois-SBC merger 1998-1999 by the Bridging the Digital Divide Coalition of several dozen community parties. The merger generated $7.5 million in community benefits including for utility outreach and funding of technology literacy centers in low wealth areas across Illinois. It also led to Illinois Eliminate the Digital Divide Infrastructure and Grant Programs to bring fiber and wireless connectivity to rural areas, and to expand digital literacy in economically distressed communities, and the development of Illinois Community Technology consumer centric leadership network 2003-2006, with evaluation of impact by University of Illinois Extension. It also led to widespread demand side participation in Illinois High Speed Internet act, Illinois Broadband Deployment Task Force and initiatives resulting in over $250 million in Illinois broadband infrastructure and service investment in Federal Recovery funding, and the development of IDOT responsibility for fiber conduit installation along highways and tollways and database available to carriers, transportation parties and local governments. Activity included writing articles in 2011-2012 on application of broadband to meet 7 national needs described in FCC National Broadband Plan (2010), and participation in activities of US Ignite in Illinois, and in Smart Community planning in other states. Recent activity has involved assisting Digital Opportunity, Smart Community and Safe and Healthy Community networks in rural and urban community district and Transform Illinois government performance models, including in partnerships with Big Data universities, and in the development of Investing in All Communities Agenda for Digital Age for community, government, business, foundation, administrative and legislative investment, especially in Digital Opportunity areas, during 2018-2020.

Resources

1.FCC National Broadband Plan 2010 7 national needs including Energy/Transportation/Environment https://www.fcc.gov/general/national-broadband-plan

2. Partnership for a Connected Illinois articles on broadband including framework for cost reductions in Energy sector

http://www.broadbandillinois.org/news/category/14

3.NSF US Ignite Smart and Connected Communities and advanced application university-developer partnerships

 https://www.us-ignite.org/

4. NSF Smart and Connected Communities 2017 grants https://www.nsf.gov/news/news_summ.jsp?cntn_id=243312

and 2018 rfp for interdisciplinary research, including research partnerships with public engagement community districts

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505364

5. Illinois Department of Innovation and Technology Smarter State Local initiatives

 https://www2.illinois.gov/sites/doit/Strategy/Pages/SmarterIllinois.aspx

 Layton E Olson

773-348-2739

Facilitator

Internet Public Trust

www.internetpublictrust.org

Local Innovation Solutions in

Safe and Healthy Communities

Building Blocks of the Body Politic

www.communityhalldashboard.org

layton.olson@outlook.com