

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)
)
Modernizing the FCC Form 477 Data Program) WC Docket No. 11-10

COMMENTS OF THE NATIONAL DIGITAL INCLUSION ALLIANCE

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Introduction

The National Digital Inclusion Alliance (NDIA) respectfully submits these comments in response to the FCC’s Further Notice of Proposed Rulemaking “In the Matter of Modernizing the FCC Form 477 Data Program” (WC Docket No. 11-10).

We are leaders of local community organizations, public libraries, municipalities and other institutions working hard to reduce digital disparities among our neighbors. To improve the daily lives of all community members, we call for digital inclusion public policies that reflect our expertise and diverse experiences.

Our approach is based in the knowledge that broadband adoption is most effectively promoted by community-driven efforts combining:

- o Affordable home broadband service.
- o Public broadband access.
- o Appropriate affordable devices.
- o Locally trusted technology training and support.

The National Digital Inclusion Alliance represents organizations with a wide range of experience reducing the digital divide in the United States. The experiences of our 250+ affiliates include providing guidance to low-income parents connecting to their children’s teachers, teaching seniors how to use their electronic health records, helping veterans learn digital skills in order to acquire a job, and enabling disabled adults to participate more fully in their communities. The services of our affiliates include digital literacy training, public Internet access, home broadband programs and digital inclusion advocacy.

NDIA currently counts 275 affiliated organizations, including 38 national nonprofits and 201 local public and nonprofit organizations in 35 states, the District of Columbia and the US Virgin Islands. Our local affiliates include 22 municipal government bodies, 37 local public libraries and regional library councils, 14 college/university programs, 9 state government agencies, 3 local school districts, 4 housing authorities and 113 local nonprofit organizations. The full list of NDIA affiliates with links to their websites can be found at <https://digitalinclusion.org/members>.

General perspectives

Paragraph 6 of the FNPRM refers to the Commission's interest in supporting the efforts of *"Others, including Congressional and state and Tribal policymakers, researchers, and consumers, [who] also rely on the data we collect for a variety of purposes."*

NDIA commends the Commission and staff for recognizing this important function of Form 477 data, and for their interest in enhancing its usefulness to "policymakers, researchers and consumers". NDIA and many of our affiliated organizations fall into these categories, having found Form 477 Census tract and block data to be unique resources for local community analysis, policy development, strategic planning and programming to increase high-speed Internet access and adoption.

Appendix 1 shows examples of local and regional research and analysis efforts which have relied upon Form 477 data.

Our specific comments on the FNPRM reflect NDIA's local-user perspective, and are focused on a few topic areas in which our experience suggests that modest changes in the content or format of Form 477 Census tract and block data, as released to the public, would make it more accessible and useful to local "policymakers, researchers and consumers".

As background to those specific suggestions, however, we want to speak briefly to two broader points.

1. Form 477 Census subscription tract and Census block deployment data are uniquely valuable for community research and analysis aimed at digital inclusion.

At this time, and until Fall 2018 at the earliest, the only public data on broadband adoption and access for any U.S. geography smaller than a Census "place" of 20,000 is Form 477 Census tract subscription data and Census block deployment data. The Census' American Community Survey 1-Year Estimates offer computer ownership and Internet subscription data, but only for Census places above 20,000 -- with demographic detail only for places above 65,000. None of this data will be available at the tract level until computer/Internet data series are incorporated into the ACS 5-Year Estimates for 2017, due for release in Fall 2018. And while the ACS will provide a lot of useful granular detail at that point, including residential connection demographics and technology shares for tracts and possibly for block groups, it doesn't, and won't, include any information about local download or upload speeds.

So for local analysts and leaders trying to assess the opportunities for high-speed broadband access and the gaps in actual household connectedness in our communities, Form 477 data is now, and will continue to be, uniquely valuable.

This is an important framework for the Commission's deliberations on adding detail, granularity, and ease of access to the publicly available tract and block data. At the same time, it's a reason to take care that Form 477 data continues to be released in formats that can easily be aligned with more traditional community planning data such as income, ethnicity, age, education, housing ownership, etc.

2. Our comments do not address the many questions in the FNPRM addressed to the treatment of mobile wireless services. NDIA and our local affiliates have had no opportunity to use wireless mobile services data for the purpose of local planning and analysis, and thus have no basis for offering concrete recommendations in our comments. For this reason our specific comments here are addressed only to Form 477 fixed broadband deployment and subscription data.

But we do wish to reiterate the general concern we expressed in our recent comments filed in response to the Commission's Thirteenth Section 706 Report Notice of Inquiry ¹:

In judging and reporting whether advanced telecommunications capability has been deployed in local areas, the Commission should not conflate mobile wireless Internet access with fixed broadband services...

NDIA and our affiliates generally support the collection and public release of any information which can improve our understanding of broadband access and costs, as factors which significantly affect digital inclusion in our communities. So we would welcome the addition of more detailed information regarding local mobile wireless broadband services to the Commission's public-record data.

But in judging and reporting whether advanced telecommunications capability has been deployed in local areas, the Commission should not conflate mobile wireless Internet access with fixed broadband services...

The availability of 4G mobile data service for individual devices... is a poor substitute for access to the power and flexibility of well-deployed fiber, cable or advanced DSL services.

NDIA's affiliated digital inclusion practitioners see computers and mobile devices as separate elements of an "access ecology" that our low-income clients find themselves navigating. Both American Community Survey and Pew Research data confirm that most U.S. users of smartphones also own laptop computers. Those who don't own both tend to be poor, i.e. to be choosing mobile as their best use of scarce resources. In general it's cheaper to combine your personal phone and a limited amount of Internet access into one device. When that device is called upon to meet a child's homework needs, prepare resumes for

¹ [FCC url for out Comments]

employers, manage spreadsheets or support participation in a college course, its limitations quickly become apparent.

Form 477 fixed deployment data issues

Section III- B-1-b. Fixed Deployment Data Reporting Generally

Paragraphs 33, 34 and 35 address a significant problem with the current system of reporting fixed deployment information -- a system in which providers report, for each technology used in each Census block, only the Maximum Advertised Download Speed and Maximum Advertised Upload Speed available to a single residential customer in the block.

This method has the effect of exaggerating the speeds available to households in both urban and rural blocks where deployment of leading technologies is uneven, e.g. where a technology's reported MADS and MAUS is be available to some addresses within a block but not others. Also, as the FNPRM says: "...it is impossible to tell whether residents of that block seeking service could turn to that provider for service or whether the provider would be unable or unwilling to take on additional subscribers. This may limit the value of these data to inform our policymaking and as a tool for consumers and businesses to determine the universe of potential Internet service providers at their location."

As a remedy, the Commission seeks *"comment on whether to require fixed broadband providers to indicate whether total customers served on a particular technology could be increased in each census block listed when they report deployment data. We specifically seek comment on whether all fixed broadband providers should be required to identify on Form 477 three categories of service areas for each technology code: (1) areas where there are both existing customers served by a particular last-mile technology, and total number of customers using that technology can, and would, be readily increased within a standard interval upon request; (2) areas where existing customers are served but no net-additional customers using that technology will be accommodated; and (3) areas where there are no existing customers for a particular technology but new customers will be added within a standard interval upon request."*

NDIA does not oppose this approach but respectfully submits that it is an unduly complicated approach to a simple problem. As an alternative, we suggest that *each provider be required to list, for each home broadband technology deployed, the speed tiers provided via that technology to households in each block, and the number of households in the block for which each tier is the maximum available.*²

² For example: AT&T would be required to report on the availability of VDSL, ADSL2 and Fiber To The Premises services (Tech Codes 11, 12 and 50) for a given block, the speed tiers offered for each, and the number of residential addresses in the block considered eligible for each technology/speed combination.

We can infer that speed-per-household information is readily available, at least to large wireline providers, because it is routinely provided to potential customers as an online screening mechanism (i.e. enter your address to see what packages are available there). And we know that providers must currently align that address-speed information with Census blocks; how else could they determine the address(es) in each block with the Maximum Advertised Download and Upload Speeds, and thus identify those speeds?

So with respect to the Commission's concerns in Paragraph 35, we suggest that NDIA's alternative is simply a more detailed reporting system for data the providers are already required to assemble to meet their Form 477 obligations, and therefore could be implemented with minimal added burden or cost.

From a community analysis and planning standpoint, NDIA's alternative is preferable because it would provide more complete, meaningful quantitative data regarding the actual broadband services available to residents at a small-neighborhood level, but without violating personal confidentiality or revealing closely held business information.

Section III-B-1-c. Granularity

Paragraphs 36 through 45 of the FNRPM explore and seek comment on several alternative methods for collecting Form 477 deployment data with greater granularity, ranging from allowing providers to submit detailed coverage maps rather than Census block data, to requiring submission of data for sub-block geographies like street segments or even geocoded households.

NDIA recognizes that the Commission's interest in this area relates mainly to its own use of 477 deployment data in its own proceedings, not to "other users" like community analysts and researchers. We also recognize that most "*policymakers, researchers, and consumers*", including those associated with our affiliates, would be inclined to support the most granular collection approach *which preserves or increases the public transparency of the data*.

NDIA does not have a clear preference for any of the alternative methods described in Paragraphs 36-44, or for the current system as opposed to any or all of them. However, we do have some cautions we ask the Commission to consider:

- 1) The technical risks and limitations of a system built on geocoding individual parcels, rather than on entering data by street address into geoidentified map segments such as Census blocks and tracts, are mentioned in the FNRPM. Please note that a "small" national 1% failure and/or error rate in geocoding Form 477 parcel or address data could easily involve much larger failure and/or error rates for many local communities, even rendering the data useless for their local purposes.

- 2) The smallest geography for which annual Census data is published on income, poverty, housing, household numbers and types, education, race, ethnicity, age, occupation, and other demographics is the Census block group. It's reasonably simple to align current Form 477 data, collected and published for Census blocks, with this demographic data for purposes of local community research and strategic analysis. When the Census begins publishing tract and block group-level ACS data on household computer ownership and Internet access in Fall 2018, this will become an even more important area for communities to explore.

Would data collected and reported by street segments or geolocated parcels be useable by communities in the same Census-friendly way? If not, the Commission should proceed with any changes in ways that ensure the continued availability and enhancement of Form 477 deployment data in Census block form.

Form 477 fixed subscription data issues

Section III-C-1-b. Other data

In Paragraph 55, the Commission seeks *“comment on whether there are other Form 477 data that the Commission should consider making public. While we understand confidentiality concerns associated with making aspects of these data public, there are also significant potential benefits to consumers and public policy. We invite comment on what data should be made publicly available, and how to mitigate competitive and other concerns.”*

The Form 477 data release which is most used by NDIA's affiliates for purposes of community analysis and strategic planning to reduce disparities in broadband adoption is the Census Tract Data on Internet Access Services, i.e. broadband subscription data.

NDIA asks the Commission to consider two simple but significant enhancements to the data included in this release. Neither change would raise a new issue of provider confidentiality. The first might require providers to file a very modest level of additional information, at a negligible cost.

- 1) Include data on fixed broadband connections at downstream speeds of 200 kbps, 3 mbps, 10 mbps and 25 mbps, with appropriate upstream benchmarks. Local researchers and planners (as well as the FCC, we'd think) would greatly benefit from the ability to make apples-to-apples comparisons going back several years, while the highest benchmark should (and we expect soon will) match the Commission's fixed deployment speed benchmark.
- 2) Convert the subscription-count data for each tract and speed benchmark to a simple percentage of Census households in the tract. The current map codes

representing 20-percentage-point cohorts (e.g. “between 200 and 399 subscriptions per 1,000 households”) obscure more useful information than they reveal. There is no good reason to keep them.

Form 477 data availability

Section III-C-3. Availability of Form 477 Data

In response to Paragraph 58, NDIA agrees that a more accessible and comprehensive map-based resource for making localized Form 477 data available to the public, similar to the former National Broadband Map, could improve the data’s usefulness to our affiliates.

To suggest a modest step in this direction: The map “Residential Fixed Internet Access Service Connections per 1000 Households by Census Tract”³ on the FCC website could be a very valuable introduction to local Form 477 data for our local leaders, nonprofits and the general public if it offered more detail at closer magnification.

Conclusion

NDIA appreciates the opportunity to share our perspectives on these issues. We hope our comments are helpful in the Commission’s deliberation.

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<https://www.fcc.gov/maps/residential-fixed-internet-access-service-connections-per-1000-households-by-census-tract/>

Appendix 1. Examples of local and regional analyses, studies and tools that have used Form 477 Census tract subscription data and/or Census block deployment data

National Digital Inclusion Alliance (for the Cleveland Foundation), ***Informing Strategic Investment in Digital Equity: Cleveland/Cuyahoga County***, September 2017 ⁴

Haas Institute, University of California at Berkeley, ***AT&T's Digital Divide in California***, April 2017 ⁵

National Digital Inclusion Alliance and Connect Your Community, ***AT&T's Digital Redlining Of Cleveland***, March 2017 ⁶

Dr. Roberto Gallardo, Center for Regional Development, Purdue University, ***The Digital Divide Index*** ⁷

City of Kansas City, MO and Xact, ***KC Digital Inclusion map***, May 2017 ⁸

Shruthi Arvind and Kyle Fee, Federal Reserve Bank of Cleveland, ***Broadband and High-speed Internet Access in the Fourth District***, December 2016 ⁹

⁴ <https://digitalinclusion.org/cuyahoga-2017/>

⁵ <http://haasinstitute.berkeley.edu/digitaldividecalifornia>

⁶ <https://digitalinclusion.org/blog/2017/03/10/atts-digital-redlining-of-cleveland/>

⁷ <https://www.pcrd.purdue.edu/signature-programs/digital-divide-index.php>

⁸ <http://www.govtech.com/civic/Kansas-City-Mo-Maps-Data-Related-to-Digital-Inclusion.html>

⁹ <https://www.clevelandfed.org/newsroom-and-events/publications/a-look-behind-the-numbers/albtl-20161208-broadband-and-high-speed-internet-access.aspx>