

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

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

COMMENTS OF NCTA – THE INTERNET & TELEVISION ASSOCIATION

October 10, 2017

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TABLE OF CONTENTS

INTRODUCTION AND SUMMARY1

I. THE COMMISSION SHOULD NOT USE FORM 477 TO COLLECT DEPLOYMENT DATA BELOW THE CENSUS BLOCK LEVEL.....3

II. THE COMMISSION SHOULD MAINTAIN THE EXISTING DEFINITION OF SERVICE AVAILABILITY10

III. THE COMMISSION SHOULD NOT ADOPT ITS PROPOSAL TO COLLECT DATA ON WI-FI DEPLOYMENT THROUGH THE FORM 47711

IV. THE COMMISSION SHOULD ADOPT ITS PROPOSAL TO DISCONTINUE COLLECTION OF GUARANTEED THROUGHPUT RATES FOR BUSINESS SERVICES.....13

V. THE COMMISSION SHOULD MAINTAIN ITS EXISTING CONFIDENTIALITY PROTECTIONS FOR SUBSCRIPTION DATA SUBMITTED ON THE FORM 47714

VI. THE COMMISSION SHOULD COMMIT TO PUBLISHING BROADBAND DATA, INCLUDING A NATIONAL BROADBAND MAP, ON A CONSISTENT ANNUAL SCHEDULE15

CONCLUSION.....17

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NCTA – The Internet & Television Association (NCTA) supports the Commission’s efforts to collect and publish meaningful data on broadband deployment.¹ But the Commission must ensure that the costs of any new broadband data collection requirements do not outweigh the benefits. With respect to the Form 477, the Commission should avoid collecting data that is so detailed or voluminous that it is expensive for providers to produce, difficult for the Commission to process, or unhelpful to the public.

INTRODUCTION AND SUMMARY

Just four years ago, the Commission adopted significant improvements to its collection of broadband subscription and availability data on the Form 477.² Of particular importance, the Commission for the first time required all broadband providers to provide data on the availability of broadband on a census block basis.³ Previously, the Commission only had collected broadband subscription data, and only at a census tract level. The Commission established this new collection of granular deployment data so that it could continue the work commenced by NTIA’s State Broadband Initiative (SBI) pursuant to funding in the 2009 American Recovery

¹ *Modernizing the FCC Form 477 Data Program*, WC Docket No. 11-10, Further Notice of Proposed Rulemaking, FCC 17-103 (rel. Aug. 4, 2017) (*Notice*).

² *Modernizing the FCC Form 477 Data Program*, WC Docket No. 11-10, Report and Order, 28 FCC Rcd 9887 (2013) (*2013 Form 477 Order*).

³ *Id.*, 9902, ¶ 32.

and Reinvestment Act that expired in 2014.⁴ When it adopted this reform to the Form 477, the Commission specifically considered and rejected the idea of collecting data at a more granular level, finding that the benefits of doing so would not justify the significant costs.⁵

In the *Notice*, the Commission revisits the question of whether to collect broadband deployment data on the Form 477 at a more geographically granular level than the census block and solicits comment on a variety of other issues related to the Form 477. For the reasons explained in these comments, NCTA believes that the costs of collecting more granular information on the Form 477 would exceed the benefits and that such a requirement would not satisfy the requirements imposed by the Paperwork Reduction Act.⁶ The Commission should instead focus its efforts on identifying more targeted approaches to gathering such data where the benefits are clearer and the cost less onerous.

The *Notice* also seeks comment on a variety of other proposals for changing the Form 477, including reporting of Wi-Fi access points, eliminating reporting of certain information regarding commercial services, narrowing the confidentiality of certain subscription data, and converting the Form 477 into an annual filing. NCTA supports those proposals that would reduce the cost and complexity of the Form 477 filing, such as turning it into an annual filing. The Commission should reject other proposals, such as requiring the reporting of Wi-Fi access

⁴ *Id.*, 9903-04, ¶ 34.

⁵ *Id.*, 9904-05, ¶ 35.

⁶ 44 U.S.C. § 3506(A)-(B); Improving Regulation and Regulatory Review, Exec. Order 13,563, 76 Fed. Reg. 3821, 3821 (Jan. 18, 2011) (requiring agencies to “propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs” and “tailor regulations to impose the least burden on society,” taking into account “the costs of cumulative regulation”); *see also* Enforcing the Regulatory Reform Agenda, Exec. Order No. 13,777, 82 Fed. Reg. 12,285, 12,285 (Feb. 24, 2017) (declaring that “the policy of the United States [is] to alleviate unnecessary regulatory burdens placed on the American people”); Reducing Regulation and Controlling Regulatory Costs, Exec. Order No. 13,771, 82 Fed. Reg. 9339, 9339 (Jan. 30, 2017) (emphasizing the importance of “manag[ing] the costs associated with the governmental imposition of private expenditures to comply with Federal regulation”).

points, that would add cost and complexity to the Form 477 without providing any meaningful improvement in the resulting data.

I. THE COMMISSION SHOULD NOT USE FORM 477 TO COLLECT DEPLOYMENT DATA BELOW THE CENSUS BLOCK LEVEL

The Commission's 2013 decision to collect deployment data for the first time and to do so at the census block level marked a significant expansion in the quantity and granularity of broadband data collected through the Form 477. Implementing this new requirement placed considerable new burdens on broadband providers, requiring many companies to devote significant resources to updating their internal records and sorting data in ways that do not serve a business purpose. Despite these costs, NCTA supports the Commission's efforts because the availability of deployment data at the census block level generally improves the Commission's ability to make more informed policy choices in a variety of contexts. Of particular note, the Commission now has the ability to target broadband subsidies to areas where they are most needed and avoid providing unwarranted support in areas where companies are willing to invest private capital.

In considering whether further expansion of the Form 477 reporting obligations is warranted, the Commission again must weigh the potential benefits that more information might have on its decision-making process against the potential costs to companies associated with gathering and reporting such data. In undertaking this analysis, the Commission cannot simply assume that the burdens of a more granular data collection will be minimal or that more granular deployment always will be beneficial to the decision-making process. As explained in more detail below, every proposal to collect more or different data imposes costs on broadband providers. At the same time, in many cases the availability of more granular deployment data may not lead to any meaningful improvement in the Commission's decisions relative to the

granular census block level data the Commission already collects. For example, there is no need for more granular data regarding census blocks located in urban areas because such blocks tend to be small and service generally is available uniformly throughout such blocks.

While there may be value in collecting more granular data regarding deployment in less densely populated areas, at this time there is no uniform method for doing so that would be economically feasible to incorporate into the Form 477. In particular, each of the proposals identified in the *Notice* for collecting more granular data raises cost and accuracy concerns and none would be capable of providing definitive information on the location of unserved customers.

Geospatial Data. The Commission notes the Form 477 interface is capable of accepting geospatial data showing coverage areas (i.e., shapefiles) and asks whether giving providers the option of submitting data in this form would enable them to provide more granular data with less burden than other approaches.⁷ Because many providers do not maintain data in this format as explained below, it would add significant costs and complexity to the Form 477 reporting process. In addition, geospatial data would be unhelpful for the Commission and to the public if reported on a partial basis (which is all that would be feasible at this time), as it would not provide a basis for comparing service areas among providers. For those reasons, NCTA does not believe that changing wireline deployment reporting to include geospatial data at this time would be fruitful.

As the Commission notes, there will be costs to such an approach for providers that do not routinely store deployment data in this format and those costs are likely to be substantial.⁸

⁷ *Notice*, ¶ 38.

⁸ *Id.*

Many providers do not presently maintain comprehensive geospatial data on the geocoded location of their existing plant, much less on serviceable areas within their footprints.

Generating such data in the first instance, for reporting purposes, would represent an enormously cumbersome and expensive enterprise: a provider would need to geolocate its entire plant, estimate the areas that are serviceable using its existing facilities (*i.e.*, either by constructing new line extensions or by running drops from existing facilities), and draw polygons that include serviceable areas and exclude any areas where service cannot be provided. Based on the experience of cable providers that have generated such data for their businesses, it is an extremely time-consuming and expensive enterprise that can take years to complete and cost millions of dollars.

Although it is possible to generate such estimates when more granular information is required for a specific census block, scaling these efforts across a regional or national footprint would be inordinately difficult. Unlike mobile broadband signals, which can generally propagate from cell towers without obstruction, fixed broadband providers' ability to reach additional locations in the vicinity of their existing facilities can be limited by unique local geographic circumstances (e.g., obstructions such as water, hills, wetlands, or railroad crossings) and legal restrictions (e.g., franchise boundaries limiting the fixed provider's authorization to extend service, or the availability of a right-of-way over private or tribal land). Deriving accurate geospatial serviceability data from engineering data, therefore, requires providers to engage in extensive manual review and modification, and in many cases would require them to physically "walk out" the census block to compare their estimates to field conditions and determine which areas within the block are serviceable. Moreover, as set forth below, in the regular course of business many providers do not keep records of all serviceable homes within their service area,

much less records of where within a census block those homes are located. Accordingly, even if it were feasible to generate geospatial maps of serviceable areas within a census block, in the absence of a database showing the location of all homes in a census block, such maps would be of limited value because they would show the portion of physical territory where access is available but not the percentage of the population that has broadband access.⁹

Address-level Data. The *Notice* solicits comments on the costs and benefits of providing address-level data.¹⁰ As the Commission previously recognized, gathering address-level deployment data is challenging because there is no standardized method of recording addresses and no definitive source for the location of homes, as there is for census blocks.¹¹ For companies that do not keep address-level deployment information in the normal course of business, developing it solely for purposes of the Form 477 filing would be burdensome. Many companies would have to implement an entirely new process, and reconfigure their internal systems, in order to track such information on a meaningful, accurate, and footprint-wide basis.

In addition, the process of collecting such data would be extraordinarily complex and burdensome for those companies that do not keep it in the ordinary course of business. To determine all of the street addresses serviceable by its existing facilities (whether already connected, reachable by drops, or reachable by line extensions that can be constructed within a typical service interval) within its service areas, a company would likely have to expend

⁹ *Id.*

¹⁰ *Id.*, ¶ 39.

¹¹ *2013 Form 477 Order*, 28 FCC Rcd at 9904-05, ¶ 35. Any requirement that providers submit customer addresses to the Commission also may have potential privacy implications pursuant to Sections 222 and 631 of the Communications Act which might need to be addressed before any such requirement could be implemented. *See, e.g.*, Public Notice, *Wireline Competition Bureau Issues Subpoena for Providers in Special Access Data Collection*, WC Docket No. 05-25, DA 15-66 (Jan. 16, 2015).

significant funds to identify (from third-party sources, such as county tax records and postal records) potential addresses within those service areas requiring investigation, pay vendors to standardize the address formats, analyze the addresses individually against the locations of its plant, conduct field inspections in a large percentage of the census blocks where they currently have facilities, and then manually create records for each address.¹² Although costs will vary by provider and with the number of affected census blocks, even assembling workable and standardized lists of candidate addresses within census blocks a provider serves can cost several million dollars. And this is all before even considering the additional costs of individually reviewing and (where needed) physically inspecting addresses in the field to verify serviceability and creating new records of those addresses.¹³

Furthermore, as recognized in the *Notice*, moving to address-level reporting would result in a significant increase in the size and complexity of the dataset that is collected.¹⁴ Providers with large datasets currently encounter substantial difficulties in uploading data to the Commission’s web site. Multiplying the volume of data that providers must submit would require a dramatic increase in the capacity of the Commission’s Form 477 interface. Moreover, to the extent the Commission already struggles to process and report the Form 477 data in a timely manner, such an expansion would certainly exacerbate the challenge.

¹² Larger providers, for instance, would need to create millions of new records for addresses in their databases solely for purposes of Form 477 reporting.

¹³ For instance, one NCTA member estimates that it would need to identify, standardize, review the serviceability of, field-verify, and create new records for roughly 15 million potential addresses within its service area – at a cost of over \$15 million *before* considering additional the cost and time commitment of assessing the serviceability of each address, including roughly \$90 for each “walk-out” needed to verify conditions in the field. This cost is not insignificant, as some of NCTA members have millions of census blocks, of which a significant portion (hundreds of thousands of blocks) are rural.

¹⁴ *Notice*, ¶ 39.

Geocoding. To the extent geocoding would require knowing all the addresses where service is available, it raises all the same concerns noted above with respect to address-level data: many providers do not maintain such data today and would need to undertake highly burdensome, costly, and time-consuming efforts to generate it solely for reporting purposes, including geolocating existing plant, estimating serviceable areas based on those locations, verifying those estimates in the field, and manually creating new records of those areas. In addition, as the Commission explains in the *Notice*, either providers or the Commission would need to bear the cost of converting address-level data to geocoded data.¹⁵ Moreover, the benefits of such an exercise are unclear given the concerns the Commission has identified regarding the significant error rates in most geocoding services.¹⁶ Indeed, based on NCTA members' experiences with commercial geocoding services, the error rates for addresses in urban areas set forth in the *Notice* understate significantly the difficulty of accurately geocoding addresses in non-urban areas, where such databases are often significantly less reliable and require extensive after-the-fact manual review. For all of these reasons, requiring Form 477 data to be geocoded would not be a helpful policy for the Commission to adopt.

Road Segments. Unlike the other options presented, there is some precedent for the use of road segments to gather more granular data in large rural census blocks because it was used in connection with the NTIA's SBI work and may be familiar to providers in these rural areas. However, NTIA's experience with this data collection was mixed, as many providers found it too difficult to report and accordingly submitted only census-block-level data. As the *Notice* explains, however, the additional benefit of reporting road segment data may be limited. As with

¹⁵ *Id.*, ¶ 40.

¹⁶ *Id.*, n.65.

geospatial data, road segment data shows more precisely where service is available, but it does not provide any indication of the percentage of the population in that census block that has access to broadband.¹⁷ Consequently, reporting this data would not significantly improve the Commission's understanding of the challenges that exist in delivering broadband to unserved households.

Ability to Service Entire Block. The *Notice* seeks comment on whether it should require providers to identify census blocks that they can fully serve, which in turn would serve to identify those blocks that are only partially served.¹⁸ Although this may seem like a simple approach, the reality is that there are a variety of scenarios where a provider may not be able to certify that it can serve an entire census block even if it believes that it could serve virtually all the customers in that block. For example, if there is any new construction taking place in the census block or if there is a multi-dwelling unit that a provider does not have permission to serve, the company would not be in a position to certify that it can serve the entire block even if it serves all other locations in the block. And even if it were feasible for providers to monitor these types of situations across millions of census blocks so that they could accurately complete the Form 477, requiring this type of reporting would not give the Commission any better idea where unserved homes are located. Instead, at significant expense to providers, it would merely replace an over-inclusive definition of what is served with an under-inclusive definition.

Given the flaws in each of the proposals for more granular reporting on the Form 477, the Commission should consider alternatives to the Form 477 for targeted collection of granular data in rural areas where population densities may not be sufficient to attract deployment throughout a

¹⁷ *Id.*, ¶ 41.

¹⁸ *Id.*, ¶ 43.

census block. One option, which the Commission already has relied on, is to offer providers the ability to submit more granular data regarding specific, targeted census blocks as part of the process for distributing support from the Connect America Fund. While such a process is not without significant costs, it has the advantage of being targeted only to those areas where the more granular information is relevant. The Commission should consider other similar options that would produce targeted information that could lead to Commission action rather than broadly imposing burdens that will add detail and cost but no value.

II. THE COMMISSION SHOULD MAINTAIN THE EXISTING DEFINITION OF SERVICE AVAILABILITY

One of the most critical issues in determining whether broadband service is available in a particular geographic area is how the Commission defines availability for purposes of the Form 477 and the corresponding filing instructions. Currently the instructions to the Form 477 provide that fixed broadband connections are “available” in a census block “if the provider does, or could, within a service interval that is typical for that type of connection—that is, without an extraordinary commitment of resources – provision two-way data transmission to and from the Internet.”¹⁹

The *Notice* seeks comment on a variety of potential changes to this definition that are designed to address concerns that an area may be identified as served even if many potential customers in the area are not able to subscribe to broadband service.²⁰ In particular, the Commission asks whether broadband providers should more explicitly identify areas where there

¹⁹ FCC Form 477 Instructions (Dec. 5, 2016) at 17.

²⁰ *Notice*, ¶ 34.

are (1) existing customers but no ability to add new ones or (2) no existing customers but capacity to add new ones within a reasonable service interval.²¹

NCTA supports the continued use of the existing definition of availability because it generally does a sufficient job of distinguishing between those areas where service is readily available and those where it is not. While the options identified in the *Notice* would in some cases provide greater precision in the Commission's understanding of where broadband services are available, in many cases the benefits will be negligible while the costs could be significant. For example, it is not apparent that requiring providers to separately identify served areas without existing customers would produce meaningful data. Given that any time a provider expands its network to a new area there may be a period of time where service is available but there are no customers, that information would appear to be of limited value in any decision-making context. Similarly, at least with respect to cable operators, the proposal to require that providers separately identify areas that are served but where there is no ability to add new customers does not make sense because cable networks are designed to accommodate the addition of new customers at any speed currently offered by the provider.²²

III. THE COMMISSION SHOULD NOT ADOPT ITS PROPOSAL TO COLLECT DATA ON WI-FI DEPLOYMENT THROUGH THE FORM 477

The *Notice* solicits comment on whether new forms of wireless broadband should be subject to reporting obligations on the Form 477. In particular, the Commission asks whether Wi-Fi capability should be subject to a reporting obligation when it is offered in a package with

²¹ *Id.*

²² Grandfathered speed tiers may not be able to accommodate new customers for business reasons, but not due to limits on the network's capacity to add the customer.

resold mobile wireless service.²³ For the reasons explained below, the Commission should not adopt this proposal.

As the *Notice* suggests, Wi-Fi capability generally does not provide a customer with mobility – it just expands the area where a fixed service can be used.²⁴ Nothing about the current packaging of Wi-Fi capability with resold mobile service converts the Wi-Fi capability into a mobile service that would need to be reported on the Form 477. To the extent the Commission is concerned with knowing where mobile wireless broadband is available to consumers, reporting by the underlying facilities-based provider fully addresses this need.

The *Notice* suggests that the Commission may be interested in mobility provided through “the integration of numerous unlicensed facilities, such as Wi-Fi routers.”²⁵ Such facilities would only be able to provide a mobile broadband capability if there were seamless handoffs from one router to another as the customer moves, but that capability is not present in any current retail service that packages Wi-Fi capability with resold mobile service. Accordingly, imposing any sort of reporting obligation through the Form 477 in connection with such services or facilities would be extremely premature.

Requiring companies to report the location of Wi-Fi access points also would raise significant cost and privacy concerns for cable operators because many such access points are located in the homes of customers. While many operators make available maps that show the location of Wi-Fi access points in outdoor areas or at commercial locations (including small businesses in residential areas), they do not publish the address of access points in the homes of

²³ *Notice*, ¶ 15.

²⁴ *Id.*

²⁵ *Id.*

residential customers and should not be compelled to submit such information to the Commission on the Form 477.

IV. THE COMMISSION SHOULD ADOPT ITS PROPOSAL TO DISCONTINUE COLLECTION OF GUARANTEED THROUGHPUT RATES FOR BUSINESS SERVICES

Under the existing Form 477, providers must report each census block where they provide “mass market/consumer” and “business/enterprise/government” services at bandwidths exceeding 200 kbps in at least one direction. For those census blocks where they provide “business/enterprise/government” services, providers must also report the maximum downstream and upstream contractual or guaranteed data throughput rate (committed information rate (CIR)) for each census block.

NCTA supports the proposal in the *Notice* to eliminate the separate reporting of CIR data because the information collected for consumer/residential/mass market data already provides the Commission with the bandwidth data it needs for its various proceedings and programs.²⁶ As the Commission explains, “[t]he added CIR data for business/enterprise/government services do not appear to provide additional useful insight, while collecting these data as a separate category imposes an additional burden on filers.”²⁷ NCTA agrees that the separate collection of maximum throughput rates for business/enterprise/government services is unnecessary given the Commission’s collection of bandwidth data for consumer/residential/mass market services, and therefore supports the Commission’s proposal to discontinue its collection of CIR data.

²⁶ *Notice*, ¶ 31.

²⁷ *Id.*

V. THE COMMISSION SHOULD MAINTAIN ITS EXISTING CONFIDENTIALITY PROTECTIONS FOR SUBSCRIPTION DATA SUBMITTED ON THE FORM 477

Since the inception of the Form 477 almost two decades ago, the Commission consistently has preserved the confidentiality of subscription data.²⁸ The *Notice* asks if there would be value in publishing two types of subscription data – the number of subscribers at each reported speed on a national level and disaggregated subscriber data after a certain period of time has passed – suggesting that any harm from public reporting of this data would be minimal.²⁹

The Commission is understating the harm of releasing this data publicly. For example, the *Notice* does not sufficiently account for the possibility that some speed tiers may be uniquely associated with a single provider, making it easy to reveal competitively sensitive information on customer churn. Similarly, the Commission’s assertion that there is no harm from releasing older company-specific data again ignores the fact that such data can reveal competitively sensitive trends (such as pointing to specific services or locations at which providers have been gaining or losing customers) which can be used by competitors. Furthermore, even if the Commission were correct that the harm from releasing some of this data is limited, the *Notice* has not identified any meaningful benefits to making such information publicly available. In the absence of any clear benefits, the Commission should not make any changes to its longstanding policy.

²⁸ *Notice*, ¶ 53.

²⁹ *Id.*

VI. THE COMMISSION SHOULD COMMIT TO PUBLISHING BROADBAND DATA, INCLUDING A NATIONAL BROADBAND MAP, ON A CONSISTENT ANNUAL SCHEDULE

The *Notice* solicits comment on how the Commission should make use of Form 477 data and how it should make the data and any resulting analysis available to the public.³⁰ In the past, the Commission has had a mixed record with respect to analyzing and publishing broadband data in a timely and useful manner. While the Commission uses Form 477 data as the basis for the annual broadband progress report required by Congress pursuant to Section 706 and for the semi-annual Internet Access Services report released by the Wireline Competition Bureau, these reports lack the consistency in timing and substance that would make them valuable to the public. For example, more than once the Commission has decided to skip the broadband progress report, notwithstanding the congressional directive for an annual report, and it has repeatedly changed the metrics relied on in the reports it has released.

Going forward, the Commission should identify a set of key metrics and commit to publishing data on those metrics on a consistent annual schedule so the public can easily see the progress that is being made on broadband deployment. A good model for the Commission to follow would be the approach taken by the Centers for Disease Control (CDC) with respect to the wireless substitution data it collects. The CDC tracks the same metrics year after year and publishes a report with the relevant data at the same time each year, and as a result it is considered the definitive source for this data. Following these same principles is the only way the Commission ever will be considered a definitive source of broadband deployment data.

³⁰ *Notice*, ¶ 58.

As part of this approach, the Commission should adopt the proposal in the *Notice* to transition the Form 477 to an annual reporting obligation.³¹ An annual filing would reduce the burden on the thousands of providers that submit Form 477 while having only a minimal impact on the utility of the data collected. The Commission could further mitigate any effect from less frequent filings by coordinating the timing of the annual Form 477 filing and the annual broadband progress report to ensure that the report is based on the most current information available.

The Commission should also assess the feasibility and cost of publishing a National Broadband Map. Since taking over broadband data collection from NTIA, the Commission has yet to produce a map or report that is as useful to the public as the National Broadband Map that NTIA published in terms of determining the state of broadband deployment in any given geographic area. While the Commission has made the underlying census block data publicly available, information in this format, as opposed to a map, is of very little use to the public. In addition, even without collecting granular deployment data below the census block level, the Commission could help members of the public better understand where broadband providers are offering service by overlaying the Form 477 data in the National Broadband Map with pertinent information, such as population and population density for each census block, from the census or other publicly available sources. Given that NTIA was able to accomplish the task of creating a National Broadband Map as recently as 2014, the Commission should be able to revitalize the map without entirely reinventing the wheel.

³¹ *Id.*, ¶ 56.

CONCLUSION

For the reasons explained above, the Commission should not require broadband providers to report broadband deployment data below the census block level on the Form 477 and it should maintain the existing standard for determining that service is available in a census block. The Commission also should reject proposals to require reporting of Wi-Fi access points and narrow the well-established confidentiality protections applicable to subscription data. Finally, the Commission should make the Form 477 an annual filing and should commit to publishing timely annual reports shortly after the Form 477 data is filed.

Respectfully submitted,

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