Using Speed Data to Challenge State Maps

How you can leverage data to correct speed disrepancies in your area

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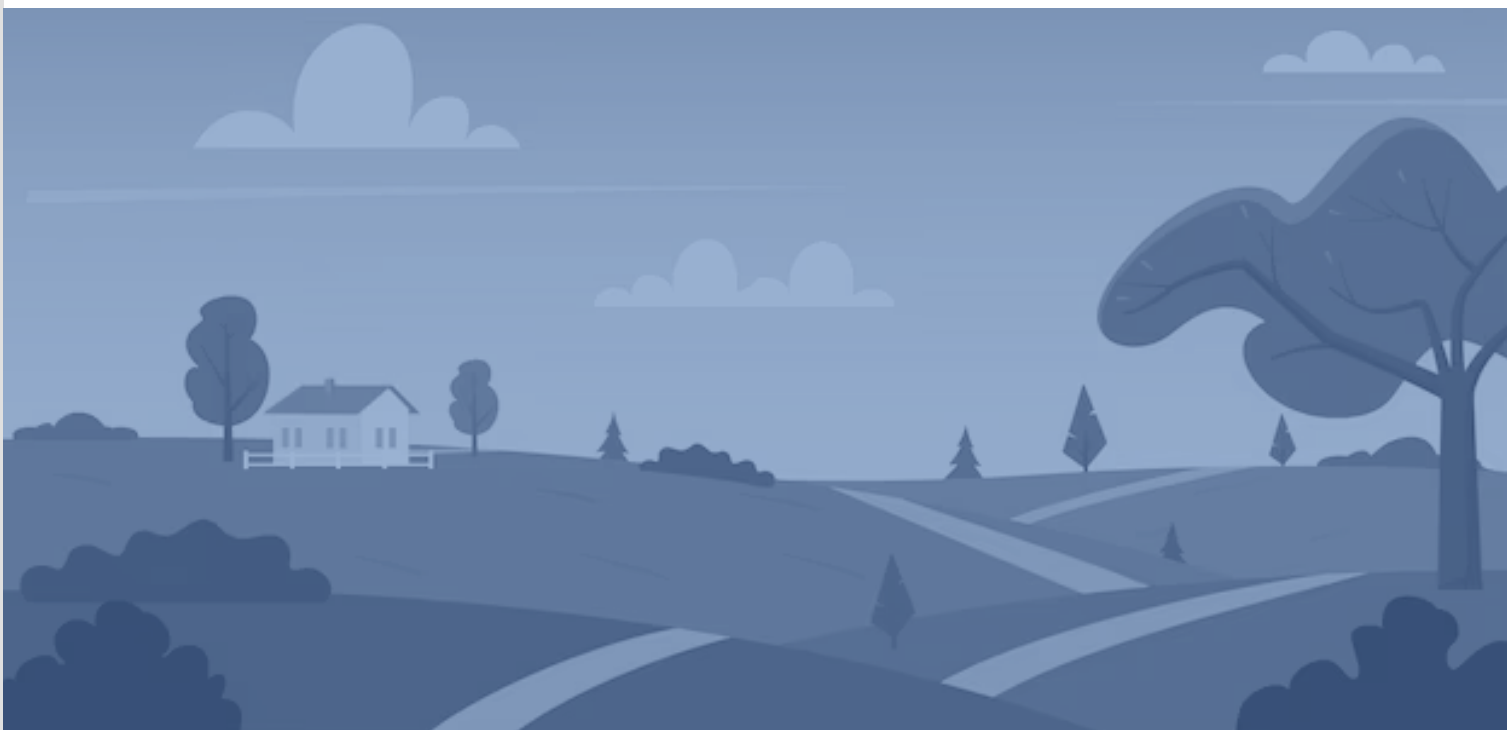# Broadband maps have long suffered from the issue of inaccuracies. With BEAD funds on the horizon, eligible entities are entering a critical phase where the allocation of funds will heavily rely on the accuracy of state maps.

As the disbursement of Broadband Expansion and Deployment (BEAD) funds to the states is already in progress, eligible entities such as Internet Service Providers (ISPs), counties, and other organizations, are preparing plans to secure these funds and determine how to allocate these recourses to facilitate digital equity.

While deploying these funds, states and providers alike recognize the importance of thoroughly scrutinizing state maps to guarantee their accuracy. The longstanding concern surrounding the accuracy of broadband maps underscores the crucial need to rely on reliable data as a guiding force for implementing necessary improvements in broadband infrastructure.
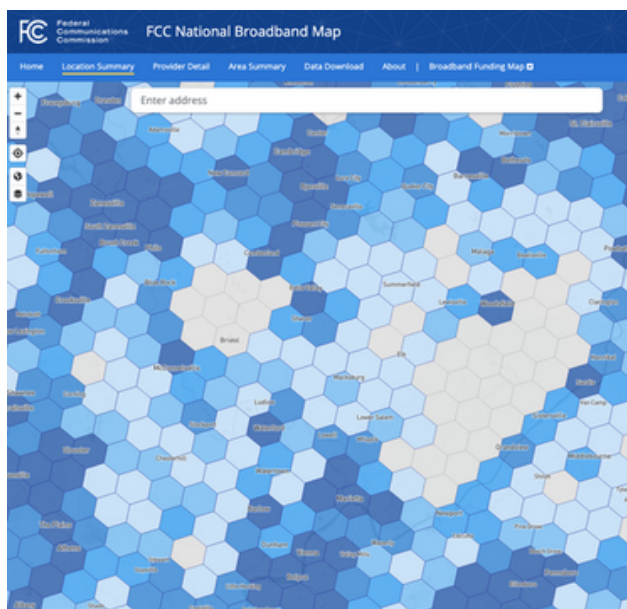
As of June 2023, the FCC has released their latest revision of the federal broadband map. Even with the addition of 330,000 more unserved locations, states argue that the map is still inherently flawed.

Maine Connect Authority said in a statement to that they were "disappointed to see claims of advertised speeds at locations where we know it is not possible to receive that level of service. The state will continue to improve the map through citizen engagement, partner collaboration, and the FCC challenge process."

Andrew Butcher, Maine Connect Authority [1]

While numerous methods exist for collecting speed data on the ground, only a few can guarantee precision, and thereby make it possible to allocate funds based on truly accurate data. Advanced Technologies & Services (ATS) has developed a methodology that allows for the use of Stamper Boxes to serve as data collection agents that can deliver more accurate speed and location metrics. This approach not only supports ISPs, counties, and state officials but anyone looking for a comprehensive evaluation of the broadband quality provided to a community.

This coincides with the state challenge process, which occurs once states submit their challenges processes to the NTIA as part of their initial BEAD funding proposals. Some states have already published their first volumes for public feedback ahead of the Dec. 27 deadline. This represents the final chance for eligible entities to rectify any inaccurate data present on state maps before funds are allocated from the states. We'll dive into who should be paying attention to the upcoming challenge process and how ATS can assist with improving your area's broadband data.

1. Whipple, Teralyn. "State Officials Highlight Discrepancies between Updated FCC Map and Ground Truth." Broadband Breakfast, June 9, 2023. https://broadbandbreakfast.com/2023/06/state-officials-highlight-discrepancies-between-updated-fcc-map-and-ground-truth/.

NTIA State Map Challenge Guidelines ✅

02

The National Telecommunications and Information Administration (NTIA) recently published a final guideline for State Map Challenges. Each state has the flexibility to either adhere to these requirements or create its own process for challenges. It is expected that a significant number of states will choose to adopt this NTIA model over creating their own.

As an eligible entity seeking to optimize your chances of securing BEAD funds, it is important to understand the data requirements of an NTIA model state speed challenge if you encounter discrepancies in your state's map.

Speed Tests Can Take Four Forms

- A reading of the physical line speed provided by the residential gateway
- A reading of the speed test available from within the residential gateway web interface.
- A reading of the speed test found on the service provider's web page.
- A speed test performed on a laptop or desktop computer within immediate proximity of the residential gateway

In Summary

Speed tests can either be done directly through the Customer Premise Equipment (CPE), using a device connected to the CPE, through a webpage test from a device using the location's connection, or from a computer using the connection in a user's home.

Speed Test Requirements

- Speed tests cannot predate the beginning of the challenge period by more than 60 days
- Each location must conduct three-speed tests on different days (not necessarily consecutive).
- The median of the three tests will be used for a speed-based challenge for upload or download.
- Subscribers can conduct speed tests, but challenges must be submitted by local government units, nonprofit organizations, or broadband service providers.
- Valid challenges come from subscribers with the fastest reliable broadband service.
- A service provider may rebut an area speed test challenge by providing speed tests for at least 10% of the customers in the challenged area
- Only tests conducted between the hours of 7 pm and 11 pm local time will be considered as evidence for a challenge rebuttal.
- The 80/80 rule applies: 80% of locations must meet or exceed 80% of the speed threshold (e.g., 80% of 25 Mbps for a 25/3 Mbps threshold)

Speed challenge criteria require challenge locations to conduct tests on three separate days, and the median result from those tests will be considered.

How these tests will be done using normal test methods, ie webpage speed tests, would likely require active subscriber involvement. They can also only be done in locations receiving the highest broadband service in that area.

Providers aiming to refute a challenge must test 10% of the challenged service area within a certain timeframe.

Community Anchor Institution (CAI) Eligibility Determination

- NTIA will permit challenges to the classification of a CAI as eligible for BEAD funds (i.e., challenges that a CAI does not receive at least 1 Gigabit broadband speeds).

CAIs can challenge their state map if they are advertised as recieving 1-gigabit service, but they believe their actual speeds are below 1-gigabit.

Anchor Institution
Advertised (1000/1000)

DL: 789Mbps
UL: 345Mbps

Underserved

Anchor Institution
Advertised (1000/1000)

DL: 835Mbps
UL: 987Mbps

Served

Counties & Community Anchor Institutions (CAIs) 🏛

Community Anchor Institutions (CAIs) play a pivotal role in communities and often need reliable broadband connections, emphasizing the significance of focusing on these institutions when allocating resources. The recently proposed NTIA State Challenge Model aims to address data inaccuracies of CAIs, with the introduction of a challenge allowing any CAI labeled as receiving 1 Gigabit service and as 'served' to contest this designation if their actual speeds are slower, which would classify them as 'unserved' and eligible for funding.

This CAI Challenge Process is applicable to the following;

- School districts
- Library districts
- Healthcare Facilities
- Government Buildings
- Community Centers
- Nonprofit Organizations
- Cultural Institutions
- Faith-Based Organizations

Ensuring counties and other leaders of CAIs have access to reliable data that accurately reflects their connections is of utmost importance. Recognizing unserved CAIs that are misrepresented as served is a vital step towards keeping ISPs accountable and improving broadband to these vital facilities.
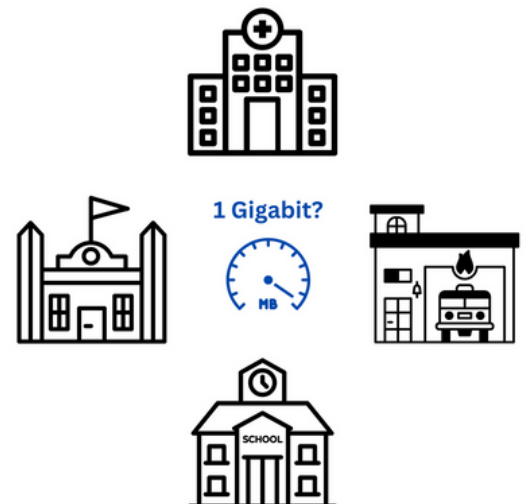
1 Gigabit?

04 Internet Service Providers (ISPs) ((•))

The upcoming allocation of funds also presents a pivotal opportunity for service providers. As the primary beneficiaries and stakeholders in the broadband ecosystem, they hold the possibility for significant gains, or potential losses on the horizon. BEAD funds present ISPs with a crucial opportunity for growth and improved competitiveness. However, failure to secure funds or meet the associated requirements can have adverse effects on their market position.

An independent speed study is a great opportunity for ISPs to bolster their application and increase their chances of being approved for grants. Outlined below are several ways providers can leverage stampers to gather speed data for BEAD.

Use Stamper Speed Data to Supplement Your Application

According to the BEAD Notice of Funding Opportunity (NOFO), ISPs should rely on a variety of data sources to substantiate their mapping claims when submitting grant applications. By utilizing Stamper Boxes with other data sources, ISPs can provide comprehensive and trustworthy information with their grant applications. Multiple reliable sources of speed tests can strengthen the case for receiving grants to expand and enhance broadband infrastructure in underserved areas.

Challenge Service Areas Outside Your Jurisdiction

In addition to relying on mapping data, ISPs have the opportunity to leverage Stamper devices to collect speed data from areas beyond their primary service area, enabling them to gather valuable insights about neighboring communities or regions of interest. This information can be utilized to inform future expansion plans, challenge neighboring locations, or prioritize investment in areas where the need for improved connectivity is evident.

Test Now To Lessen the Burden Later

As of writing this, BEAD recipients will be required to test their funded infrastructure using the same criteria as CAF performance testing. Consequently, webpage speed tests will no longer be permissible and instead, a Stamper-like solution or software will be necessary. By proactively testing performance, ISPs can prepare to meet these deadlines and avoid future headaches. Additionally, they can gather valuable analytics from their funded locations throughout the process, enabling them to make informed decisions based on their overall performance.
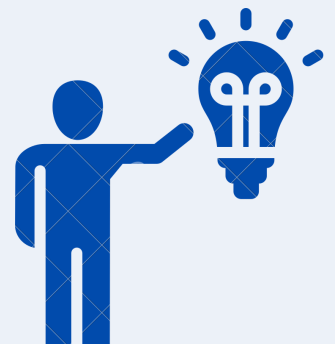
05 How Stamper Tests Work ⚙️

We've developed a solution that is meant to give a precise reading of the internet speeds of locations in a community for map challenges. These locations can be anchor institutions, public facilities, or subscriber homes. This is meant to allow eligible entities to obtain the most accurate and up-to-date information regarding the quality of service being delivered to their local community.

To implement our solution, an individual places a Stamper Box, our small IoT Edge device, in a location where they wish to measure broadband connectivity. The number of locations can vary, but ATS will specify which institutions could be the best candidates for speed testing and would most likely be underserved by using publicly available datasets in conjunction with state map data. Plus, our Stamper devices are provider and hardware agnostic, meaning they can be used with virtually any brand modem or routing device regardless of provider or vendor.

Stamper Speed Challenge Network

Stamper Network   ATS Servers   NTIA Formatted CSV
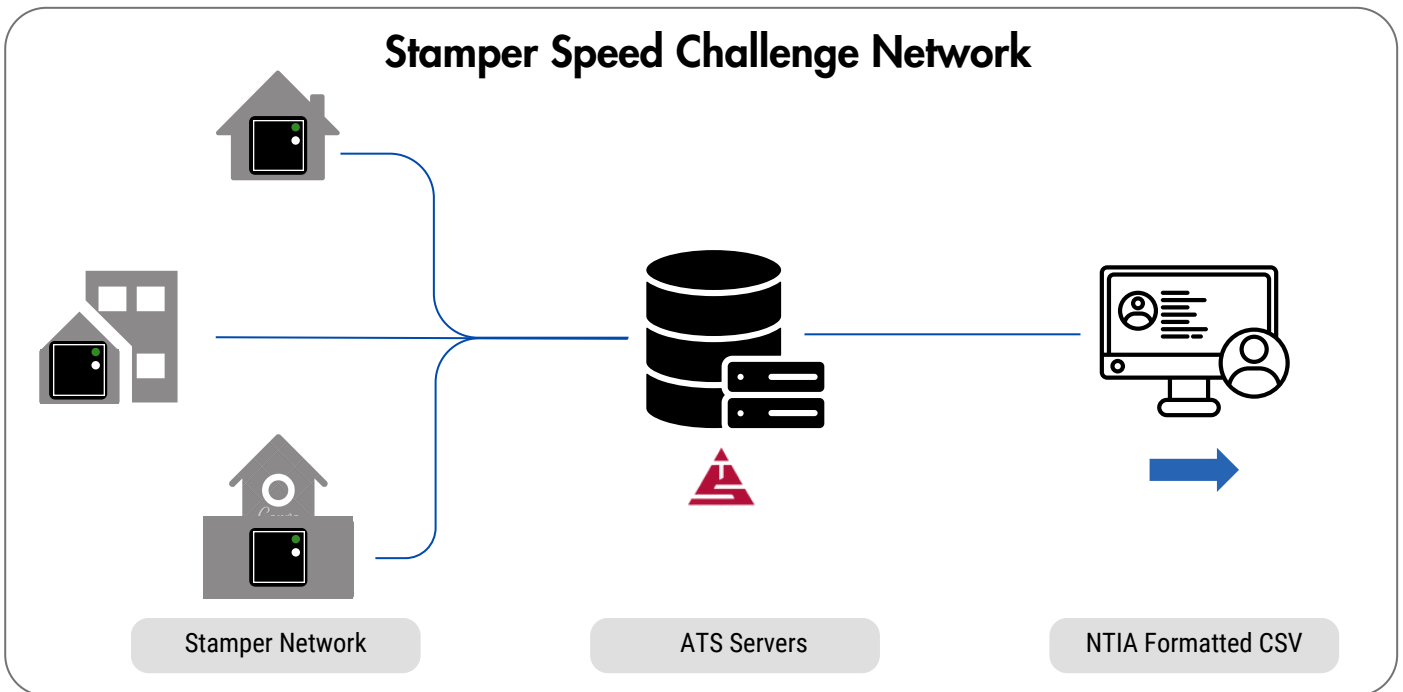
I Used Other Sources for my Speed Data. Isn't this accurate?
Inaccurate speed data can be attributed to several factors.

First, the available data relies on a combination of state speed tests, which may have limitations in terms of accuracy, and ISP data, who may not fully disclose actual speeds in order to prevent competition.

Secondly, while NTIA compliant, webpage speed tests may not provide a reliable depiction of the actual service received, as speed measurements can fluctuate and lack consistency across various sources.

Lastly, our solution aims to conduct testing on a smaller sample of locations compared to a webpage test. By testing fewer locations, the focus can be placed on obtaining more precise readings for each individual location.

06 How Stamper Tests Work (Cont.)

Moreover, our Stamper solution aims to address potential difficulties that organizations may encounter with the NTIA challenge guidelines. Specifically, the following requirements have the potential to pose as obstacles for some organizations with speed challenges.

1 Each location must conduct three-speed tests on different days (not necessarily consecutive). Tests for rebuttals must be conducted from 7 pm to 11 pm local time.

The first requirement offers two options for challengers: conducting remote tests using methodologies such as the TR-069 protocol or similar methods, or have a subscriber log into a computer to manually run tests on three separate days. Rebuttals require challengers to obtain speed tests within a specific four-hour window. These requirements can be challenging for rural providers without the capability to remotely run speed tests. Stamper Boxes provide a solution by enabling remote scheduling of tests, eliminating the need for customer interaction after installation.

2 Subscribers can conduct speed tests, but challenges must be submitted by local government units, nonprofit organizations, or broadband service providers.

Following subscribers' speed tests, the collected data must be aggregated and formatted according to the specific requirements outlined by the NTIA. Consequently, organizations not only have the task of understanding how to conduct the speed tests but also the responsibility of internally configuring and managing the data before submitting it for the challenge. Unless states decide to provide a standardized speed testing method, this poses to be an undertaking for rural organizations that may not have an in-house data scientist or the resources available to address a speed challenge.

Stamper boxes are completely managed by ATS (depending on how involved the entity chooses to be) once they're installed to the challenge locations. ATS completes the testing per NTIA requirements and sends the data to submit with a challenge. Our objective is to assist organizations that have been inaccurately represented on broadband maps and handling their challenges, aiding them with enhancing their state maps in the process to ensure they don't miss out on funding opportunities.
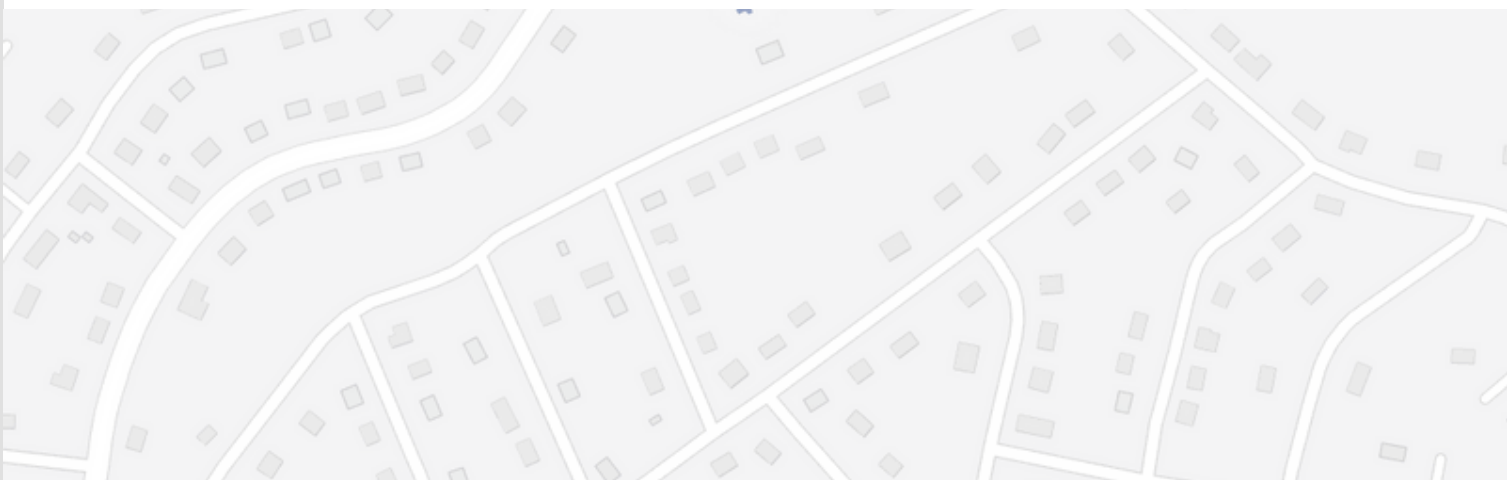
07 Final Word

The advantages of acquiring additional speed tests from reputable sources like ATS are apparent based on well-known issues with current broadband maps. However, it is crucial for ISPs to take prompt action to challenge state maps and guarantee that they are accurately represented before applying for funds. While this primarily relates to the BEAD fund, it is important to note that other entities have also been adversely affected by inaccurate mapping. This inaccuracy could potentially impact the distribution of other funds besides BEAD being allocated to them.

Acting sooner rather than later empowers organizations to advocate for their respective needs, ensuring that they receive their rightful share of resources and opportunities. By addressing mapping inaccuracies well in advance, they can safeguard their interests and make a substantial impact in fostering equitable access to broadband services.

Our Stamper Boxes are already operational across the nation, providing valuable support for FCC-regulated funds such as A-CAM and the Connect America Fund. Organizations can benefit from this proven track record and the ease of integration with their existing systems, making them an ideal choice for obtaining accurate speed data and meeting the requirements of the NTIA.

To explore how our solutions can assist your organization in acquiring precise speed data within your service areas, kindly reach out to us at *https://go.atso.com/meet-ats*. We look forward to discussing the potential to help you secure funding opportunities through better data.