Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of Empowering Broadband Consumers Through Transparency	GN Docket No. 22-2

COMMENTS OF THE MASSACHUSETTS DEPARTMENT OF TELECOMMUNICATIONS AND CABLE

Commonwealth of Massachusetts
Department of Telecommunications and Cable

KAREN CHARLES PETERSON
COMMISSIONER

1000 Washington Street, Suite 600
Boston, MA 02118-6500
(617) 305-3580

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The Massachusetts Department of Telecommunications and Cable ("MDTC")[1] respectfully submits these comments in response to the Notice of Proposed Rulemaking ("NPRM") released by the Federal Communications Commission ("FCC") on January 27, 2022.[2] The FCC seeks comment on its proposal to require broadband Internet access service providers ("ISPs") to display labels to consumers disclosing certain information at the point of sale.[3] Broadband disclosure labels are an important step toward empowering consumers to understand and make informed decisions regarding their broadband service options.

First, the MDTC urges the FCC to standardize the presentation and terms of the disclosure label. The MDTC further urges the FCC to go beyond the proposed glossary of terms and to offer consumers an explanatory webpage that describes how to interpret the various

[1] The MDTC regulates telecommunications and cable services within Massachusetts and represents the Commonwealth before the FCC. MASS. GEN. LAWS ch. 25C, § 1; MASS. GEN. LAWS ch. 166A, § 16. The MDTC is also charged with facilitating increased access to broadband service in Massachusetts and is proud to have served on the Consumer Advisory Committee that in 2015 provided initial recommendations on the FCC's broadband disclosure labels. MASS. GEN. LAWS ch. 25C, § 9; *see also* NPRM ¶ 4.
[2] *In re Empowering Broadband Consumers Through Transparency*, GN Docket No. 22-2, *Notice of Proposed Rulemaking* (Jan. 27, 2022).
[3] *Id.* (fulfilling its obligation under the Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429, § 60504(a) (2021)).

sections of the label. This webpage and the label itself should be available in multiple languages. Second, the MDTC suggests that ISPs be required to disclose sunset dates for their support of customer-owned equipment as part of the information associated with the labels. Third, the MDTC encourages the FCC to require more granular metrics for location and time-of-day usage. Fourth, the MDTC suggests requiring the disclosure of both latency and jitter, as important and interrelated metrics. Finally, the MDTC recommends that the FCC establish a technical committee to advise on the various aspects of transparency reporting.

I. STANDARDIZED DISCLOSURE LABELS WILL ENHANCE CONSUMER EDUCATION AND ADVANCE EQUITY, INCLUSION, AND ACCESSIBILITY

The FCC seeks comment on how the proposed labels can promote diversity, equity, inclusion, and accessibility, and on ways the labels can help facilitate equal access to broadband Internet access services.[4] By providing a standardized label format with detailed definitions, the FCC can ensure consumers can make the necessary comparisons they need to make informed decisions. Moreover, by requiring that this information be presented in multiple languages, the FCC can improve accessibility for consumers of diverse backgrounds.

A. STANDARDIZED LABELS WILL IMPROVE CONSUMERS' ABILITY TO COMPARE SERVICE OFFERINGS

The MDTC echoes the FCC's skepticism of permitting flexibility in the content of labels.[5] The MDTC urges the FCC to require a standardized disclosure label that does not vary in content from ISP to ISP. Standardizing label content allows consumers to comparison shop between multiple ISPs and between different offerings of a single ISP.[6] The ability to navigate and compare labels without confusion will improve consumers' ability to select their best option.

[4] NPRM ¶¶ 34, 35.
[5] *See id.* ¶ 19.
[6] Although 98% of Massachusetts residents have access to wired broadband service, 47% of that population has access to only one option, per the most recent FCC Form 477 data and 2010 decennial Census population data.

Standardizing the label content means not only that the labels should look the same, but also that they should reflect the same information, measured in the same way. Therefore, the FCC should require that the terms of the labels be uniformly defined and measured across ISPs to facilitate consumer education and comprehension. These definitions will allow consumers to trust that the metrics they see in a label represent the same underlying information, achieved through the same underlying methodology, regardless of which ISP created the label. Although labels should be standardized, ISPs should retain the option to include any additional content or context outside of the label that they feel may be helpful for consumers at the point of sale.

B. THE FCC SHOULD HOST A CONSUMER GUIDE TO EXPLAIN LABEL TERMINOLOGY IN PLAIN LANGUAGE

At the bottom of the proposed disclosure label is a link to an FCC glossary webpage.[7] Recognizing that consumers may understand the content of the labels to varying degrees, the FCC should host a webpage describing the label and how to interpret it, much in the same way that the U.S Food and Drug Administration ("FDA") does for the Nutrition Facts Label.[8]

This webpage should include not only a glossary of terms, but also explanatory information beyond definitions. In particular, the FCC should explain terms that may be especially difficult to understand, such as performance metrics. Consumers want to purchase reliable service but may not necessarily understand what "packet loss" means or know how to interpret the metric. By creating a webpage that defines and explains the various terms and metrics, making it available in multiple languages, and requiring that a link to the webpage be

[7] NPRM at Appendix B.
[8] The FDA hosts a "How to Understand and Use the Nutrition Facts Label" webpage that breaks down a nutrition label in parts and explains what each section means and how to interpret the values. *See* U.S Food and Drug Administration, How to Understand and Use the Nutrition Facts Label, https://www.fda.gov/food/new-nutrition-facts-label/how-understand-and-use-nutrition-facts-label.

included in every disclosure label, the FCC can empower consumers to understand the information they are being provided and act on it.

The webpage should also include links to related broadband policies to help broaden consumers' understanding of additional terms on the labels, such as network management, data caps, and privacy policies. Although the proposed label indicates that ISPs must include links to their own network management policies, allowing consumers the chance to learn about network management, privacy, and other important parts of the label from the FCC can increase consumers' ability to process and understand the links offered by ISPs.

Finally, the MDTC recommends that the link to said webpage be moved to the top of the labels, to ensure that consumers know additional guidance is available and decrease the chances that they will desist from reading and trying to interpret the content.

The proposed webpage further highlights the importance of standardized language across all disclosure labels, to ensure that the webpage will accurately match what each consumer views on each label. Moreover, ISPs' interpretation and compilation of relevant metrics will improve by using precise and consistent definitions of terms.

C. THE FCC SHOULD REQUIRE THAT THE LABELS BE MADE AVAILABLE IN MULTIPLE LANGUAGES

As stated in the NPRM, various FCC bureaus have noted the importance of plain language that is simple to understand.[9] The MDTC urges the FCC to carry that value forward and require that the disclosure labels be made available in multiple languages at the point of sale. This practice will help achieve the FCC's goal of advancing diversity, equity, inclusion, and accessibility.[10]

[9] *See* NPRM ¶ 7.
[10] *Id.* ¶ 34.

II. THE FCC SHOULD REQUIRE DISCLOSURE OF SUNSET DATES FOR ISP SUPPORT OF CUSTOMER-OWNED EQUIPMENT

The FCC seeks comment on whether it should consider additional content, such as whether offered rates are contingent on restrictions such as equipment rentals.[11] The MDTC supports the inclusion of such information and suggests that the FCC also consider the impact of equipment ownership on the calculations that consumers make when assessing broadband-service pricing. Specifically, the MDTC recommends that ISPs disclose plans to stop supporting customer premises equipment, such as modems and gateways, as soon as such plans are known.

The proposed label includes a section where an ISP can include a link to its customer premises equipment policy.[12] Frequently, such webpages detail specific equipment models that an ISP supports,[13] or give general specifications for the compatible devices that consumers can purchase.[14] Equipment cost is an important consideration for consumers at the point of sale and may inform their decision to either lease or purchase their own modem or gateway. However, ISPs are not currently required to disclose how long they plan to support devices or device technologies, nor are they required to notify customers when their devices stop being supported. Consumers deciding to purchase a modem or gateway based on the information offered by an ISP may be surprised months, weeks, or even days later if the equipment they purchased is abruptly removed from support without notice.

The FCC should require that ISPs disclose any foreseen or planned changes to their supported equipment on their equipment policy webpages. This will allow consumers to make reasonable, cost-effective choices at the point of sale. The FCC recognizes the importance of

[11] *Id.* ¶ 20.
[12] *Id.* at Appendix B.
[13] *See, e.g.*, https://www.xfinity.com/support/devices/ and https://www.cox.com/residential/support/cox-certified-cable-modems.html.
[14] *See, e.g.*, https://www.astound.com/support/internet/bring-your-own-modem/.

consumers receiving notice in advance of discontinuances, as it requires that providers notify their customers in writing as far in advance as possible if they are going to discontinue, reduce, or impair service.[15] The principles of this notice should be carried over to the discontinuance of ISP support for customer premises equipment, which can effectively be a discontinuance of service if customers cannot immediately replace the unsupported equipment.

III. THE FCC SHOULD STRIVE TO MAKE PERFORMANCE INFORMATION AS MEANINGFUL AS POSSIBLE

The proposed label requires the display of four performance metrics for fixed broadband service: typical peak usage download speeds, typical peak usage upload speeds, typical peak usage latency, and typical peak usage packet loss.[16] The MDTC respectfully submits that aggregating data with "peak usage" defined as 7:00 p.m. to 11:00 p.m.[17] may not reflect an individual's actual experience, and thus may not be as helpful as possible. The MDTC thus suggests that the FCC require the display of performance metrics at two different time periods. Further, the MDTC recommends requiring location-specific information and requiring the disclosure of both latency and jitter.[18]

A. THE FCC SHOULD REQUIRE TIME-OF-DAY-SENSITIVE REPORTING

Rather than defining "peak usage" as a single time period, the MDTC recommends that ISPs display typical performance metrics during two separate time periods: 9 a.m. to 6 p.m. and

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[15] 47 C.F.R. § 63.71; *see also* https://www.fcc.gov/research-reports/guides/what-companies-and-bankruptcy-professionals-must-do-discontinue.

[16] NPRM at Appendix B.

[17] *See In re Protecting & Promoting the Open Internet*, GN Docket No. 14-28, *Report & Order on Remand, Declaratory Ruling, & Order* ¶ 166 n.409 (defining "peak usage"). The FCC should clarify the definition of "peak usage" for consumers, in either the labels or in the MDTC's proposed explanatory webpage.

[18] Latency is "the time it takes for a data packet to travel across a network from one point on the network to another." https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-eleventh-report. In other words, latency measures delay. Jitter "is the variance in the delays of signals being delivered through a broadband network connection." https://www.benton.org/headlines/jitter-%E2%80%93-measure-broadband-quality. In other words, jitter measures variance in the delays experienced by users.

6 p.m. to 11 p.m. Taking measurements at two time periods would help separate two distinct broadband user groups: a daytime measurement period would reflect broadband usage for people working or learning from home or the office; an evening measurement period may better represent users streaming entertainment or gaming. With these different measurement periods, consumers could better select a service plan that meets their individual priorities.

B. THE FCC SHOULD REQUIRE LOCATION-SPECIFIC LABELS

For broadband service plans offered in different geographic areas, labels could present consumers with information that they do not find meaningful on account of its aggregation. An ISP may offer the same speed tier in Florida and Massachusetts, but combining the performance measurements for Miami and Boston will not reflect the experience of any one consumer in either location. As a result, the MDTC urges the FCC to make performance metrics as specific as possible for each service address, by requiring ISPs to calculate and display performance for all addresses using the specific aggregation router that the service address would use.

Because ISPs generally require potential customers to provide their address when browsing for available services and prices, ISPs should have the information they need to present consumers with labels specific to their location. Location-specific performance information will give consumers more meaningful insight into the quality of service they can reasonably expect and allow for a more accurate comparison between local and multi-state ISPs in areas where more than one ISP is available.

C. THE FCC SHOULD REQUIRE THE DISCLOSURE OF BOTH LATENCY AND JITTER

Latency is a helpful metric, but not by itself.[19] A user's quality of experience cannot be measured only by how much data is delayed in getting to its destination; knowing how much that

[19] *See* NPRM ¶ 16 (proposing to include latency metrics on the labels).

delay varies over time is just as important.[20] Because jitter identifies the amount of inconsistency in latency, it should be included alongside latency in the label.[21] Consumers interested in broadband for videoconferencing, in particular, will benefit from having a measure of delay variability, in addition to the underlying measure of delay. Their quality of experience depends on jitter much in the same way that the experience of a person drinking from a water fountain depends on whether the water flows at the same rate throughout. It is possible for the same amount of water to be released in 30 seconds in two different ways: a consistent flow throughout, or infrequent or variable hard bursts of water. For certain broadband-dependent applications, the difference matters, and if the FCC's goal is to provide consumers with "information about broadband Internet access services [that] helps consumers make informed choices," a full picture of service quality, including both latency and jitter, is necessary.[22]

As mentioned previously, the MDTC recognizes that consumers will have varying levels of technical knowledge, which could hinder their ability to derive meaning from the labels. We therefore reiterate the importance of an FCC-hosted webpage, with a link at the top of the label, that will help consumers understand the meaning and importance of terms like latency and jitter.

IV. THE FCC SHOULD ESTABLISH A TECHNICAL COMMITTEE TO ADVISE ON ENHANCING TRANSPARENCY REPORTING

The FCC seeks comment on whether it should adopt a "direct notification" requirement for changes to terms in the labels, and on how to evaluate and enforce the accuracy of information presented in the labels.[23] Both of these issues raise specific challenges in the

[20] For a great explanation of latency and the importance of consistency, see Dion, Gino, Focusing on latency, not throughput, to provide better internet experience and network quality, https://www.iab.org/wp-content/IAB-uploads/2021/09/Nokia-IAB-Measuring-Network-Quality-Improving-and-focusing-on-latency-.pdf.
[21] *See* NPRM ¶ 20 (asking for recommendations on additional content that should be included on the labels).
[22] *Id.* ¶ 1.
[23] *See id.* ¶¶ 22, 31.

performance-reporting field, and the MDTC submits that a technical committee comprised of experts, such as network engineers, would be well-suited for the task.

The MDTC recommends creating a committee comprised of network experts to answer these questions. Last year, the Internet Architecture Board held a workshop on measuring network quality.[24] Experts from academia, industry, and the open-source community joined to share research and uncover insights on performance measurement. Indeed, the will and the know-how to tackle verification issues are already there. To that end, stakeholders would benefit from the FCC gathering experts and leveraging their knowledge in an advisory committee that can develop and recommend a mechanism for the enforcement and improvement of the labels.

One recommended task for this committee is to establish a performance dashboard for consumers. If a consumer relies on performance information relayed in a broadband label to choose a broadband service, the consumer should be able to verify that the performance has not changed over time. Thus, rather than direct notification of changed performance metrics, the FCC should empower consumers by providing subscribers with personalized performance information over the long term. A technical committee could help stand up this initiative.

A technical committee could further improve broadband labels by establishing model user metrics tailored to different customer profiles. The ideal and minimum speeds, latency, and packet loss metrics are likely different for specific categories of users, such as gamers, streamers, people who work or study from home, and telemedicine practitioners. Developing these sample profiles could help improve disclosure labels in the future and inform future iterations of a subscriber dashboard by comparing actual metrics against recommended thresholds for the different types of broadband users.

[24] For more information on the workshop, see https://www.iab.org/activities/workshops/network-quality/.

V. CONCLUSION

The MDTC urges the FCC to ensure that its broadband disclosure label is a useful tool for consumers. The labels should be standardized for ease of comparison, understanding, and accessibility. The FCC should create an explanatory webpage, similar to the FDA's, to educate consumers and thus maximize the labels' utility. Both the label and the webpage should be available in multiple languages, and the link to the webpage should appear at the top of the label. Further, the FCC should acknowledge the importance of equipment at the point of sale by requiring ISPs to disclose planned sunset dates for equipment support. Additionally, to make the performance information contained in the labels more meaningful, the FCC should consider location and multiple times of day. The FCC should also incorporate a jitter metric alongside the proposed latency metric, to provide a better picture of a subscriber's quality of experience. Finally, the FCC should seek input from network experts in the form of a technical committee, to assist the FCC in the creation of a mechanism for the monitoring and verification of information submitted in the labels. In the long term, the committee could develop recommendations for a consumer-specific performance dashboard. The MDTC appreciates the opportunity to provide these recommendations to make the broadband disclosure labels as useful as possible.

Respectfully submitted,

KAREN CHARLES PETERSON, COMMISSIONER

By: */s/ Marina Levy*
Marina Levy, Competition Data Analyst

Massachusetts Department of
Telecommunications and Cable
1000 Washington Street, Suite 600
Boston, MA 02118-6500
(617) 305-3580

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