

REDACTED – FOR PUBLIC INSPECTION

October 23, 2015

VIA ELECTRONIC FILING

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20544

Re: *Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership for Consent to Assign or Transfer Control of Licenses and Authorizations, MB Docket No. 15-149*
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Dear Ms. Dortch:

Comcast Corporation (“Comcast”) submits herewith one copy of the redacted, public version of its responses to the Commission’s October 9, 2015 Information and Data Request.¹ The {{ }} symbols denote where Highly Confidential Information has been redacted, and the [[]] symbols denote where Confidential Information has been redacted. The Highly Confidential version of this filing has been submitted to the Office of the Secretary pursuant to the terms of the Protective Order in effect in this proceeding.² Confidential and Highly Confidential versions of this filing, including related documents and exhibits, will be made available for inspection pursuant to the terms of the Protective Order.

Requests for the Confidential and Highly Confidential versions of this submission should be directed to Stephanie Power of Willkie Farr & Gallagher ((202) 202-1249 or spower@willkie.com).

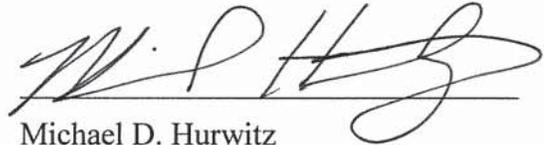
¹ See Letter from William T. Lake, Chief, Media Bureau, to Lynn Charytan, Comcast Corporation, MB Docket No. 15-149 (Oct. 9, 2015).

² See *Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership for Consent to Assign or Transfer Control of Licenses and Authorizations*, Protective Order, MB Docket No. 15-149, FCC 15-110, ¶ 13 (Sept. 11, 2015) (“Protective Order”).

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Please contact the undersigned should you have any questions regarding this submission.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "M. D. Hurwitz", written over a horizontal line.

Michael D. Hurwitz
Counsel for Comcast Corporation



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Washington, DC 20001
202.379.7121

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Dear Ms. Dortch:

Comcast Corporation (“Comcast”) hereby submits its responses to the Commission’s October 9, 2015 Information and Data Request (the “Request”).¹ As discussed with Commission staff, additional data responsive to Request 5 is being compiled will be provided at a later date. The response to Request 6 is limited as agreed to by representatives of the Commission.

Comcast has made diligent efforts to ensure that none of the documents it is submitting herewith is privileged under the attorney-client privilege, the attorney work product doctrine, or any other applicable privilege or protection. To the extent that any privileged documents may have been inadvertently produced, such production does not constitute waiver of any applicable privilege. Comcast requests that any privileged documents inadvertently produced be returned to Comcast as soon as such inadvertent production is discovered by any party, and reserves all rights to seek the return of any such documents.

In providing these responses to the Request, Comcast does not waive, and hereby expressly preserves, all of its objections, challenges, and defenses (collectively, “objections”) to the Order and accompanying Protective Order issued in MB Docket No. 15-149 on September 11, 2015.² The

¹ See Letter from William T. Lake, Chief, Media Bureau, to Lynn Charytan, Comcast Corporation, MB Docket No. 15-149 (Oct. 9, 2015).

² See *Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership for Consent to Assign or Transfer Control of Licenses and Authorizations*, Order and Protective Order, MB Docket No. 15-149, FCC 15-110, ¶ 13 (Sept. 11, 2015).

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Ms. Marlene H. Dortch
October 23, 2015
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grounds for Comcast's objections are generally set forth in the *Petition for Reconsideration of Comcast and NBCUniversal Media, LLC* filed in this docket.³

If you have any questions or require further information, please do not hesitate to contact me.

Respectfully submitted,

/s/ Lynn R. Charytan

Lynn R. Charytan
Senior Vice President,
Legal Regulatory Affairs
Comcast Corporation

³ Petition for Reconsideration of Comcast and NBCUniversal Media, LLC, MB Docket No. 15-149 (filed Oct. 13, 2015).

**RESPONSES OF COMCAST CORPORATION TO THE
COMMISSION’S OCTOBER 9, 2015 INFORMATION AND DATA REQUEST**

- 1. Describe, and identify and provide documents sufficient to show, the Company’s policies or procedures with respect to decisions to establish or augment interconnection capacity with any CDNs, Internet backbone services, edge providers, Internet access service providers, and all other persons with whom the Company may engage in Internet traffic exchange.**

RESPONSE:

Documents responsive to this request have been produced to the FCC.

Comcast does not have separate policies or procedures for interconnection between different types of Internet companies (e.g., other ISPs, CDNs, edge providers, Internet backbone services, etc.). Instead, the nature of the interconnection relationship is determined primarily by the volume and balance of traffic exchanged between the parties, and whether the parties satisfy the requirements of Comcast’s Settlement-Free Interconnection (“SFI”) policy.¹

Comcast’s policy for adding capacity with settlement-free partners is different from Comcast’s policy for adding capacity for its customers that purchase transit services (both full transit or on-net transit). Both are addressed below. Settlement-free peering arrangements are inherently two-way. As a result, one party cannot augment the interconnection arrangement on its own; rather, both parties must add new ports when an interconnection link must be augmented, which generally involves joint planning and discussion. In paid arrangements, the ISP does not determine whether and when to augment interconnection capacity. Instead, the customer requests additional capacity to meet its needs. Different customers may be satisfied with different levels of utilization of their interconnection ports, as explained in more detail below.

Neither party in an interconnection arrangement can predict the amount of capacity they will need at any given moment with complete accuracy. This is because, among other things, large edge providers or other traffic sources can shift their traffic at a moment’s notice and create (or avoid) network capacity issues. In the case where a large traffic source suddenly creates congestion, the peers would require time to engineer, purchase, and install equipment to address the newly created capacity problem. That same large traffic source may then shift the traffic to another path, requiring new capacity augments while stranding capacity with the first peer or at the first location.

¹ Comcast Settlement Free Interconnect (SFI) Policy, <http://www.xfinity.com/peering> (last visited Oct. 20, 2015).

Settlement-Free Partners

Internet traffic is constantly growing, and Comcast and its interconnection partners strive to account for this growth proactively. Comcast's Settlement-Free Interconnection ("SFI") Policy requires that applicants "must agree to participate in joint capacity reviews at pre-set intervals and work towards timely augments as identified." Comcast and its settlement-free peers hold these reviews approximately every six weeks, along with ad-hoc communications in between, to discuss operational and infrastructure needs. These discussions include capacity requests and ongoing assessments of each party's compliance with the other's peering policy, as well as discussions about additional technology needs or geographic locations. Comcast's business practice is to maintain a healthy interconnection relationship with each of its partners and manage traffic growth as anticipated by both parties. And while different parties have different preferences, Comcast's goal is to have no more than {{ }} percent utilization of available capacity in any settlement-free interconnection arrangement to provide sufficient headroom for spikes in traffic, unexpected events, and normal growth.

When one of the two parties projects (or experiences) growth that would require additional capacity and communicates that to the other party, the other party evaluates the request to determine whether the addition of capacity would be consistent with its peering policy. The requesting party might be Comcast or might be the peer. Of course, in some cases, both parties may project relatively equivalent growth, which makes augmentation straightforward. Upon receiving a straightforward request for augmentation (either because the request is mutual or because it is compliant with the SFI Policy), Comcast will promptly begin the process of provisioning the requested capacity. This process entails evaluating whether the additional capacity is readily available at the relevant exchange points (i.e., whether there are available ports, available line cards, available capacity on the relevant router, and available optical capacity to carry the traffic onto Comcast's backbone network and redundantly to metro destinations). If the requested capacity is readily available, Comcast generally can provision it within as little as a week. SFI upgrades are prioritized based on a number of factors including engineering forecasts, measured demand, available infrastructure, and whether or not the request complies with Comcast's SFI policy. Assuming that both parties meet the criteria and are ready to upgrade capacity, requests are usually prioritized on a first-in-first-out basis.

If the requested capacity is not readily available, Comcast will begin the process of network design and capital orders required to make the new capacity available as soon as practicable. In some cases, the required changes are minor, but in others, Comcast may need to install a new router, arrange for more space and power (though this is less common given Comcast's efforts to deploy spare capacity in interconnection facilities), or provide additional backbone capacity to reach metro locations. Overall, the process of provisioning additional capacity when none is available often takes approximately six to eight weeks, depending on the work required.

Comcast also frequently seeks to establish interconnection sites in new geographic locations with its peering partners. So long as a party continues to meet the SFI Policy,

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Comcast prefers to establish interconnection links in major metropolitan areas in which Comcast and the peering partner maintain a presence in order to enable more efficient delivery of traffic.

On rare occasions (and not unique to Comcast), a substantial change in a peer's business practices or traffic flows will cause the peer to exceed the bounds of the SFI Policy – most typically in the context of an imbalance of traffic flowing across an interconnection link. For example, if a peer begins selling high-volume transit services when it had not done so previously, this might dramatically alter the balance of traffic flows. And this increasingly one-way relationship would impose far more burden on the party receiving the inbound traffic, which would have to carry all that traffic over its backbone and metro facilities, all the way to customers, while, in contrast, the delivering provider is typically collocated in the third-party peering site with the relevant edge provider, and is simply carrying its content a few feet at most.²

If a peer's request for capacity exceeds the amount of capacity that would be covered by the mutuality required by Comcast's SFI policy, Comcast will invite the company to engage in "out-of-policy" discussions, through which the company can purchase additional capacity on a commercial basis (while leaving the existing SFI arrangement in place to cover the preexisting traffic). In the interim, because Comcast typically has longstanding, productive relationships with its peers, Comcast may provide a complimentary augmentation of the interconnection to help alleviate the congestion, at the same time as the parties put commercial terms in place for additional supplemental capacity. Those terms are typically straightforward and do not differ dramatically among Comcast's customers that send roughly equivalent amounts of traffic. The prices are market-based, and are constrained by the transit pricing offered by third parties (which has declined markedly in recent years).

Full Transit or On-Net Transit ("Paid Peering") Customers

When companies purchase full transit or on-net transit services from Comcast, they enter into contracts that define the terms and conditions under which Comcast must add additional capacity to the interconnection arrangement. As a general matter, these contracts provide that the parties may request that Comcast add additional capacity, and (subject to the terms of the contracts) Comcast must do so in the manner described above. Simply put, it is not Comcast's choice to add (or refuse to add) additional capacity for these customers. It is the customer's decision whether or not to add additional capacity. Some customers prefer to run their interconnection links "hot" (i.e., at or close to 100

² The most immediate costs involved in an ISP's provisioning additional capacity at an exchange point include adding ports, adding line cards, adding routers, adding cross-connects, and adding optical capacity to carry the traffic from the interconnect point to the ISP's backbone facilities, as well as space and power costs for the equipment and any associated labor expenses. Comcast and its settlement-free peers generally bear the cost of their own network equipment at the exchange point (such as the line cards and routers on their respective sides of the interconnection link) and share the costs of jointly used equipment (such as cross-connects). Beyond this, as traffic increases, Comcast must also provision capacity on its global backbone network, its metro networks, and its access networks.

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percent utilization) because they closely monitor their various links and use all of them as much as possible. Others prefer to maintain spare capacity for sustained spikes in utilization or to allow for growth. Customer requests are generally handled on a first-in-first-out basis, and delivery of customers ports are subject to a thirty-day install service level agreement.

2. Describe, and provide and identify documents sufficient to show, how the Company responds to competitors' pricing and product offerings for each relevant service.

RESPONSE:

As discussed below, Comcast faces substantial competition in each relevant service identified by the FCC. Like any company in a competitive environment, Comcast regularly monitors industry developments based on publicly available information to learn what it can about its competitors and their offerings. Comcast periodically assesses its own pricing and packages relative to its competitors' activities. Representative documents responsive to this request have been produced to the FCC.

MVPD Service

The market for MVPD service is dynamic and highly competitive.

Over the past decade, competition in video has grown substantially and transformed the market for video delivery to consumers. Today's video marketplace is more competitive than ever. Cable companies now face powerful competition from satellite providers (DIRECTV, Dish), overbuilders (Google Fiber, RCN), telcos (Verizon Fios, AT&T U-Verse), and most recently, linear OVDs (Sling TV, Sony Vue). Since 2005, satellite and telco providers have added millions of subscribers while cable subscribers have declined by millions of subscribers. New wireline MVPD entrants like Google Fiber have recently entered the market with robust product offerings and competitive pricing. And new linear OVDs like Sling TV and Sony Vue have emerged offering OTT multichannel linear services that compete with MVPDs.

In response to these competitive pressures, Comcast has invested substantially to improve the quality of its video service, most notably through the development and rollout of the innovative X1 platform. Comcast has also devoted significant resources to developing a leading VOD platform to deliver extra value and convenience for consumers. Likewise, Comcast has continued to expand its TV Everywhere offerings, providing customers with access to more content on more devices, both inside and outside the home. Comcast is also experimenting with new video offerings that are aimed at giving customers more flexibility in how they experience Comcast's video service. For example, Comcast recently announced the introduction of Stream, a cable service delivered to customers' homes in IP over Comcast's managed network. The service will be available for \$15 a month and will let customers who purchase standalone Xfinity Internet service add a slim cable package and watch live TV from around a dozen networks – including all major broadcast networks, PEG channels, and a premium network – on laptops, tablets, and smartphones in their home without the need for a Comcast-supplied set-top box. Comcast also launched Xfinity on Campus last fall on five college campuses (with trials at several additional schools) and this fall grew the number of participating schools to 27, almost quadrupling the number of schools in less than a year. Like Stream, Xfinity on Campus is a box-free cable service delivered in IP over Comcast's managed network.

Telephone Service

The market for telephone services is similarly highly competitive. Customers have numerous choices for telephone service, including traditional providers of phone service (i.e., ILECs), cable VoIP providers, wireless providers, and OTT VoIP providers (e.g., Vonage, Skype). The most significant trend in telephony is the shift towards wireless substitution for fixed telephone services. Wireless has been steadily eroding the share of fixed lines, and that trend is projected to continue over the next decade. In response to these competitive developments, Comcast has continued to evolve its voice offering to add more features and flexibility. Comcast also partnered with Verizon Wireless to include wireless products in Comcast's bundle offerings.

Content Delivery Network

Comcast's CDN product offering is targeted at content providers that deliver large amounts of on-net traffic to Comcast. This offering was only launched a year ago and is still an evolving product. Although Comcast does compete with providers such as Akamai, Limelight, and Level 3, Comcast's CDN product offering is {{

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Internet Access Service

Comcast faces very substantial competition in the provision of Internet Access Services to customers.³ Some of Comcast's chief competitors in this space are incumbent telco providers, e.g., Verizon and AT&T. The telcos generally offer two types of wireline Internet products: DSL-based offerings, and fiber-based offerings. In DSL areas, recent advances in DSL technology (e.g., G.fast) have emerged that will improve DSL products to better compete with cable. In fiber areas (which are expanding), AT&T U-Verse and Verizon FiOS compete head-to-head with cable providers on speed, price, and quality.

New wireline entrants like Google Fiber have joined the marketplace with robust product offers like Google's 1 Gbps symmetrical product for \$70 per month. And the widespread deployment of LTE by wireless providers has brought virtually ubiquitous high-speed Internet service to everywhere that Comcast has cable systems. These wireless broadband offerings are already competitive with cable broadband on speed and will only become more so as wireless providers continue to add more spectrum, re-farm existing spectrum, and incorporate new technologies.

In response to these competitive pressures, Comcast has taken several steps to improve the quality and value of its high-speed Internet offering to customers, including the following examples:

³ The FCC has requested that information on Internet Access Service be provided separately for subscribers and for edge providers. To the extent that an edge provider purchases Internet access from Comcast, that edge provider would be treated in the same manner as any other business customer purchasing Internet access.

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- Comcast has invested substantially in its broadband network, which has allowed network capacity to double roughly every two years. As a result, Comcast has been able to continue to increase customers' Internet speeds again and again.
- Comcast has developed a leading network of Wi-Fi hotspots that provide subscribers with the ability to use their Comcast Internet subscription away from home through the hotspots.
- Comcast has launched new products in response to super-high speed competitor offerings from Google and others. For example, Comcast recently launched "Gigabit Pro," a 2 Gbps Internet product, in many areas throughout its footprint.
- Comcast is investing significantly in developing and deploying DOCSIS 3.1 technology, which will bring further speed and quality enhancements to Comcast's Internet customers.

These examples highlight just some of the steps that Comcast is taking to ensure that customers value Comcast's high-speed Internet offering in an increasingly competitive marketplace.

Internet Traffic Exchange

As discussed above in response to Request No. 1, there are a variety of ways in which Comcast interconnects with other members of the Internet community.⁴ Comcast has a publicly available SFI policy that sets forth the criteria for settlement-free peering. Companies that do not qualify for settlement-free peering may enter into direct paid peering relationships with Comcast or may reach Comcast indirectly through a third-party CDN or through any of the dozens of high-quality transit links into Comcast's network.

The price of transit has fallen by 99% over the last 15 years and continues to decline. Transit prices generally discipline the prices for direct paid peering relationships.

⁴ Comcast does not have separate policies for interconnection between different types of Internet companies, e.g., other ISPs, CDNs, edge providers, etc. Instead, as explained above, the nature of the interconnection relationship is determined primarily by the volume and balance of traffic exchanged between the parties.

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3. **Explain the Company’s use of data caps or usage allowances and describe your data cap or usage allowance plan in each of your service areas, including a description of how the company selected the service area for implementing or trialing data caps or usage allowances. In your answer, describe the factors you used to determine whether to implement data caps or usage.**

RESPONSE:

Comcast does not currently have any data “caps” in place that set a maximum upper limit to the amount of usage available to a particular user. As described below, Comcast has launched trials of new data usage plans in a limited number of markets; these do not feature a data cap.

Prior to 2008, Comcast had an ad hoc data usage policy that did not provide specific guidance on how much data customers could use. This policy was investigated by the Florida Office of the Attorney General, which focused on the fact that Comcast’s prior excessive use policy had lacked a specified data usage cap. [[

]] In October 2008, as part of the “Assurance of Voluntary Compliance” settlement agreement, Comcast announced a revised Internet data usage policy that allowed residential customers up to 250 gigabytes (“GB”) of data usage per month.

This 250 GB cap was designed to prevent any single residential account from consuming excessive amounts of network resources, [[

]]. The 250 GB cap was set at a level that would not (and did not) interfere with typical (or even very heavy) customer usage. With an allotment of 250 GB in 2009, customers could send 50 million plain text e-mails, download 62,500 songs, upload more than 25,000 high-resolution photos, or even stream between 100 and 800 hours of video (depending on whether they streamed studio-quality video or good quality, standard-definition video) – far more usage than the typical customer would engage in over a month of residential Internet service. As Netflix noted in April 2011, “Comcast has had 250 gigabytes caps for years without overage charges and that hasn’t been a problem for Comcast customers or for us.”⁵

In May 2012, Comcast announced that it was suspending the 250 GB cap nationally and instead trialing different, more flexible data usage approaches.⁶ The rationale for modifying Comcast’s data usage policy was the company’s desire to respond to an

⁵ Netflix Inc., Current Report (Form 8-K), at 8 (Apr. 25, 2011), <https://www.sec.gov/Archives/edgar/data/1065280/000119312511107751/0001193125-11-107751.txt>.

⁶ Notably, even at the time Comcast suspended the 250 GB cap, Xfinity Internet Service customers’ median monthly data usage was only 8 to 10 GB per month (or four percent of the cap), and the cap impacted an extremely small number of customers. Usage trends over time did not suggest any impending spike that would radically change this pattern.

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evolving marketplace, in which other providers (wireless and wireline) were trialing new approaches, and technology, data usage patterns, and consumer online activities had evolved significantly over time. Comcast determined that, in the current marketplace, it made sense to experiment with a more flexible approach that provided consumers with more options and control and to test customer reactions to these plans and impacts on data usage. In particular, Comcast concluded that it would be more pro-consumer and pro-innovation to craft an approach that eliminated the notion of a hard cap on broadband usage and replaced it with a usage-based billing approach that allows customers that want to use more of their broadband Internet access service to pay to use however much what they want.

In developing this new approach, Comcast announced it would launch trials of new data usage plans in certain markets to understand which data management approach worked best. Comcast did not know which specific approach would prove most successful and so wished to trial different options. In markets where Comcast was not trialing a new plan, Comcast would continue to suspend enforcement of its original usage threshold. Currently, Comcast is trialing four different data usage plans in various markets across its footprint.⁷

Comcast launched the first trial in the Nashville, Tennessee market in August 2012. The policy provides a 300 GB usage allotment per month for all Internet tiers. The 300 GB threshold is not a “cap” – there is no limit on how much data a customer may consume, and Comcast has amended its Acceptable Use Policy to make clear that it is no longer a grounds for termination to use an “excessive” amount of data. Rather, under this approach, a customer who uses more data than the “threshold” amount is billed for the additional usage – \$10 for 50 GB increments in excess of the threshold. Customers are actively notified via e-mail and in-browser notifications at 90 percent and 100 percent of the usage threshold. They can request additional notifications at usage points between 50 percent and 125 percent.

The second trial with a slightly different policy was launched in Comcast’s Tucson, Arizona market in October 2012. In Tucson, customers receive at least a 300 GB per month initial allotment at every tier of high-speed Internet service. At higher speed tiers, customers receive larger initial allotments. Thus, customers start with a 300 GB usage allotment for the Economy Plus through Performance tiers, and receive higher Internet allotments at each successive tier of high-speed data service (350 GB for Blast tiers, 450 GB for Extreme 50 tiers, and 600 GB for Extreme 105 tiers). Again, the various thresholds are not “caps.” Customers may use as much data as they like but are subject to billing for any overage in additional 50 GB increments for \$10. Customers on this plan are actively notified via e-mail and in-browser notifications at 90 percent and 100 percent of the usage threshold, and they can request additional notifications at usage points between 50 percent and 125 percent.

⁷ Additional information on Comcast’s current data usage plan trials is also available on Comcast’s website. See *Questions & Answers About Our New Data Usage Plan Trials*, Comcast Corp., <http://customer.comcast.com/help-and-support/internet/data-usage-trials> (last visited Oct. 20, 2015).

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The third trial was launched in Comcast's Fresno, California market in August 2013, designed to provide customers with the opportunity to pay less if they use less. In this trial, customers who subscribe to Comcast's Economy Plus tier are offered a voluntary, flexible data option that allows them to adopt a 5 GB threshold. Usage at 5 GB per month or below results in a \$5.00 credit to the customer, while usage above 5 GB results in a \$1 overage fee for every 1 GB above 5 GB. Customers are notified at 50, 60, 70, 80, 90, 100, 110, and 125 percent of this threshold.

Additional trials launched in 2013 generally combined the approach in the Nashville trial, with its 300 GB per month usage allotment for all service tiers, with the option of purchasing more usage, and the voluntary, flexible data option for Economy Plus customers. Several trials were rolled out in Comcast's markets toward the end of 2013, including: Savannah, Georgia, Central Kentucky, and Jackson, Mississippi in September 2013; Mobile, Alabama and Knoxville, Tennessee in October 2013; Memphis, Tennessee, Augusta, Georgia, Huntsville, Alabama, and Charleston, South Carolina in November 2013; and Atlanta, Georgia and Maine in December 2013.

In September 2015, Comcast announced a new trial market in the Miami/Ft. Lauderdale, Florida area. As with the trials in Nashville and Tucson, customers begin with a 300 GB usage allotment and they can buy additional gigabytes over their usage allotment in incremental blocks of 50 GB for \$10 each. In addition, Comcast added a new Unlimited Data Option that customers can purchase for \$30 per month. The 300 GB per month usage allotment does not apply to customers who purchase the Unlimited Data Option. In October 2015, Comcast added the Unlimited Data Option in the Atlanta trial market for \$35 per month.

As noted above, to ensure that customers are aware of their usage and any potential and actual use in excess of their thresholds, Comcast has developed an enhanced notification process. Customers receive e-mail and in-browser messages that notify them when they are approaching their usage thresholds, and again when they exceed their threshold. Each time additional GBs of usage are added to the customer's account, the customer will receive another e-mail and an in-browser message notifying her that more usage has been added to her account.

Customers in trial markets are given three courtesy months in which they can exceed the data usage in excess of an initial threshold before being charged; Economy Plus customers that choose the Flexible Data Option do not receive courtesy months. The first month that a customer exceeds the threshold, the customer is not billed. The second and third months that the customer exceeds the threshold, the customer is billed but provided a matching credit and thus not actually charged. These courtesy months enable a customer to understand how usage-based billing works before actually being charged. If all three courtesy months are not used in a 12-month period, the policy resets. If a customer uses all three courtesy months in a 12-month period and the customer's usage exceeds the initial 300 GB threshold in an additional month, the customer is charged \$10 per each 50 GB of data (or fraction thereof) used above 300 GB. Comcast has added to its customers' "My Current Data Usage" webpages each customer's courtesy pass count,

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indicating how many times the customer has exceeded her usage threshold in the prior 12 months.

Comcast also provides its customers with several tools to predict their usage and to help them avoid going over their usage thresholds. Customers have access to a usage meter and information about their historical usage patterns on their “My Current Data Usage” webpages, which is typically accessible from the “Details” link (under the “Data usage” bar) on the “My Services & Equipment” webpage,⁸ so they can monitor and adjust their usage patterns if necessary. The “My Current Data Usage” webpage displays each customer’s current usage and her last three months’ usage history. In addition, to help customers estimate their data usage, Comcast has developed an online usage calculator.⁹ And, in the trial markets, Comcast has launched a “usage meter app” that can be downloaded to a PC and that will track usage and display it on a user’s PC on an ongoing basis (i.e., without the customer having to log into her Comcast account to access her usage meter details). Whenever Comcast launches a trial in a new market or when a customer signs up for service, Comcast highlights the availability of the usage meter, usage calculator, and in-browser notifications in a variety of ways, including via e-mail. In addition, a dedicated customer support group with expertise on Comcast’s usage trials has been created to answer questions and assist with customer inquiries.

As set forth above, the rationale for modifying Comcast’s data usage policy was the company’s desire to respond to an evolving marketplace, in which other providers (wireless and wireline) were trialing new approaches, and technology, data usage patterns, and consumer online activities have evolved significantly over the years, and in order to ensure that all Comcast’s customers are treated fairly such that those customers who choose to use more, pay more, and customers that choose to use less, pay less. Comcast launched these trials in different markets and with different versions of the policy to experiment with how best to implement a fair and consumer-friendly data management approach.

In conducting these trials, Comcast provides all customers with the option to use as much data as they want, which offers more flexibility than the previous 250 GB cap. Throughout the trials, Comcast has researched customer attitudes, perceptions, and usage responses to the trials to help guide the evolution of its data management policy. The trials are also an effort to develop information on the best ways to provide transparency to customers around usage-based billing policies. To that end, Comcast has used these trials to determine what information customers need to select the service level and options appropriate to their needs, including the tools necessary to manage their use of high-speed Internet service.

⁸ The “My Services & Equipment” webpage is accessible from the “My Services” link on the customer’s “My Account” homepage.

⁹ See *How Much Data Do I Use?*, Comcast, <http://xfinity.com/datacalculator> (last visited Oct. 20, 2015).

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The usage thresholds were set at a high enough level (a minimum of 300 GB) so that they would not impact the vast majority of Comcast's Internet customers, but rather would only affect the very highest users of data. At 300 GB, customers can stream over 500 hours of standard-definition video or over 200 hours of high-definition video per month, or download over 60 high-definition two-hour movies.

Comcast considers a variety of factors when choosing a trial market. {{

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- 4. Produce one copy of each agreement between the Company and any other persons that contain provisions relating to peering, paid peering or settlement free interconnection.**

RESPONSE:

Documents responsive to this Request have been provided to the FCC at the following production numbers: COM-COM-00000405 to COM-COM-00001904.

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- 5. Provide the Company’s internet traffic exchange data as specified in Attachment A.**

RESPONSE:

Information and data responsive to this request through December 2014 has been provided to the FCC in machine-readable Excel spreadsheet as Exhibit 125.1 and the accompanying narrative. Comcast continues to gather information from 2015 and will provide responsive information and data to the FCC as soon as practicable.

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- 6. Please re-submit all data submitted to the Commission by the Company in response to the Request for Information and Datas issued in MB Docket No. 14-57.**

RESPONSE:

Attached as Exhibit A, in response to this request, Comcast is providing data exhibits it filed previously in response to information requests issued to Comcast in Docket No. 14-57. (Narrative descriptions pertaining specifically to those data, and, for context, the text of the original requests, are also included here, with limited modifications.) Where revised data exhibits were submitted, Comcast is providing the latest such submission. For ease of review, Comcast has maintained the request and exhibit numbering scheme from the submissions in that docket.

EXHIBIT A

2. Identify, as of December 31, 2009, December 31, 2010, December 31, 2011, December 31, 2012, December 31, 2013, and June 30, 2014, each cable system owned by, operated by, managed by, or attributed to the Company, and for each cable system identify the nature of the Company's interests, and state and identify the following:
- a. the Community Unit Identifiers (CUID);
 - b. the Physical System Identifiers (PSID);
 - c. the name and number of the DMA served by the cable system;
 - d. the census blocks served by the cable system;
 - e. the zip codes served by the cable system;
 - f. the internal Company names and codes that apply to the cable system;
 - g. the facilities-based competing providers of Internet access service and MVPD service (excluding private cable and wireless cable operators), separately identified by service and provider, and the distribution technology used by the competing provider (e.g., wireless, fiber optic cable, hybrid fiber optic cable, or satellite) for each zip code served;
 - h. any internal estimates of the percentage of homes passed that are overbuilt by any facilities-based competing provider of MVPD service and Internet access service separately for each such competing provider;
 - i. the total capacity and the total unused capacity of each of the Company's cable systems by (i) MHz and the spectrum allocated to each cable service and any other service, and (ii) the number of non-broadcast programming networks; and
 - j. the headends serving each cable system and the number of cable services subscribers served by each headend.

RESPONSE:

Comcast is providing data for each cable system owned by, operated by, managed by, or attributed to the Company.

2(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.1.

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Exhibits 2.1(a)-(f) provide the Community Unit Identifier (CUID) and CUID name for each cable system owned or operated by Comcast, for December 31, 2009; December 31, 2010; December 31, 2011; December 31, 2012; December 31, 2013; and June 30, 2014. In addition, for each cable system and each of the aforementioned dates, Exhibits 2.1(a)-(f) provide the division, region, and sub-region, as well as the cable system name, and cable system code.

2(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.2.

Exhibits 2.2(a)-(f) provide the Physical System Identifiers (PSID) for each cable system owned or operated by Comcast, for December 31, 2009; December 31, 2010; December 31, 2011; December 31, 2012; December 31, 2013; and June 30, 2014. In addition, for each cable system and each of the aforementioned dates, Exhibits 2.1(a)-(f) provide the division, region, and sub-region, as well as the cable system name, headend name, and cable system code.

2(c):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.3.

Exhibits 2.3(a)-(e) provide the DMA name and DMA number for each cable system owned or operated by Comcast, for December 21, 2010; December 21, 2011; December 21, 2012; December 21, 2013; and June 21, 2014. Since monthly reporting at Comcast takes place on the 21st of each month, data responsive to this request are provided as of the 21st rather than as of the 30th or 31st of each requested month. DMA data are not available for 2009 and 2010. In lieu of December 2010 data, DMA data are provided for January 2011.

2(d):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.4.

Exhibit 2.4(a)-(f) provide the census block numbers for each cable system owned or operated by Comcast, for December 31, 2010; December 31, 2011; December 31, 2012; December 31, 2013; and June 30, 2014.

2(e):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.5. Since monthly reporting at Comcast takes place on the 21st of each month, data responsive to this request are provided as of the 21st rather than as of the 30th or 31st of each requested month. Zip code data are not

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available for 2009 and 2010. In lieu of December 2010 data, zip code data are provided for January 2011.

Exhibit 2.5(a)-(e) provide the zip codes owned or operated by Comcast, for January 21, 2011; December 21, 2011; December 21, 2012; December 21, 2013; and June 21, 2014.

2(f):

In response to this subpart, Comcast refers to Exhibits 2.1(a)-(f).

Exhibit 2.1(a)-(f) provide the name (“Cable System”) and code (“Cable System GL”) for each cable system owned or operated by Comcast, for December 31, 2009; December 31, 2010; December 31, 2011; December 31, 2012; December 31, 2013; and June 30, 2014.

2(g):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibits 2.6 through 2.10. All data reflected in Exhibits 2.6 and 2.7 have been provided by Centris, a third-party analytics firm. The data includes lists of MVPDs and Internet service providers for each zip code in which Comcast operates. By submitting these data, Comcast does not represent that all providers, or any particular provider, offers services that compete with Comcast. It also does not represent that there are not other competitors in particular zip codes. Each year provided in Exhibit 2.6 and 2.7 contains a zero or a one denoting whether a provider is present (as indicated by a one) or absent (as indicated by a zero) for that month in a particular zip code.¹⁰

Exhibit 2.6 provides a list of MVPDs for each zip code in which Comcast operates from January 2010 to the present using data from TV Guide/Rovi. The data could not be provided prior to January 2010 and so January 2010 data is provided in lieu of the yearend 2009 figure. The list of MVPDs is illustrative and may be over- or under-inclusive with respect to any particular zip code and any particular provider, and is not broken out between residential and commercial video providers. Moreover, the fact that a provider is listed in the same zip code as Comcast does not necessarily mean that it overlaps with Comcast’s footprint in that zip code or that it competes with Comcast. Providers are identified by a unique ID and name and provider technology where possible, which either originated in the TV Guide data or was provided based on National Telecommunications & Information Administration (“NTIA”) data for those providers also offering Internet services.¹¹

¹⁰ There are zip codes identified in each exhibit for which Comcast and Centris were not able to list other providers either because of a lack of information from the data sources or difficulties in translating census blocks to zip codes. These zip codes represented fewer than 1% of Comcast subscribers.

¹¹ In the list of video providers, there are additional fields provided to indicate those Comcast zip codes in which it is believed that AT&T U-verse Internet or Verizon FiOS Internet is available, which represents the maximum potential availability for AT&T U-verse TV service and Verizon FiOS TV service.

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Exhibit 2.7 provides a list of wired Internet service providers for each zip code in which Comcast operates from 2009 to the present. The data are derived from voluntary, semiannual reporting to the NTIA on serviceable census blocks. The NTIA asks providers to identify the census blocks in which they have serviceable households, but the fact that a provider services some households within a census block does not mean that providers can provide services to all households in a census block, or all households in the zip code(s) in which each census block falls.¹² Moreover, the fact that a provider is listed in the same zip code as Comcast does not necessarily mean that it overlaps with Comcast's footprint in that zip code or that it competes with Comcast. Finally, the data made available by NTIA do not distinguish between types of customers served, and thus the providers listed in Exhibit 2.7 include, and do not distinguish between, residential and commercial Internet service providers.

In addition to the providers listed in Exhibit 2.7, Comcast also notes that mobile wireless telecommunications providers, including Verizon Wireless, AT&T Wireless, Sprint, and T-Mobile, provide high-speed Internet access services to residential and commercial customers that are available throughout the United States (and certainly within all, or nearly all, of Comcast's footprint) and are capable of achieving downstream and upstream speeds that qualify as broadband speeds according to the Commission.

2(h):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibits 2.8, 2.9, and 2.10. These exhibits represent internal estimates of the percentage or share of homes passed overbuilt by fiber Internet and video providers.

Exhibit 2.8 provides estimates of Comcast homes passed overbuilt by AT&T U-verse or Verizon FiOS data services as of the second quarter of 2014. These figures do not include estimates for the number or percentage of homes that are TV serviceable. Exhibits 2.9 and 2.10 provide the Company's internal historical estimates of overbuild from providers offering a package of voice, video, and Internet services in Comcast's footprint and estimates of fiber overbuild from various providers.¹³

2(i):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.11 and in narrative Word format as Exhibit 2.12. While Comcast is able to provide the details of the current spectrum allocation for its cable systems, historical spectrum allocation data is not available. In lieu of historical

¹² In the relatively few instances in which a census block overlaps two separate zip codes, the census block and providers were attributed to the zip code in which the majority of the census block falls.

¹³ The Comcast homes passed figures are sourced from COMET, a marketing database that provides a current snapshot of serviceable addresses from the billing systems.

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spectrum allocation data, Comcast is providing a narrative description of the history of spectrum allocations.

Exhibit 2.11 provides the current total capacity of each of Comcast's cable systems (as of June 30, 2014), expressed in MHz and in EIA Channel Count. It also provides the allocation of the spectrum over broadcast services, non-broadcast services, and other services (DOCSIS, VOD, and non-programming services).

Exhibit 2.12 provides a narrative description of the changes in capacity and spectrum allocation of Comcast's cable systems over time.

2(j):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.13. Since monthly reporting at Comcast takes place on the 21st of each month, data responsive to this request are provided as of the 21st rather than as of the 30th or 31st of each requested month.

Exhibit 2.13(a) provides the headends serving each cable system, as well as the number of video, HSD, and voice subscribers for each headend, for December 21, 2010; December 21, 2011; December 21, 2012; December 21, 2013; and June 21, 2014. Exhibit 2.13(b) provides the same categories of data for December 21, 2009.

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- 4. For each zip code identified in Request 2(e) and for the Company as a whole, separately for residential subscribers and other subscribers, and for each month for the period beginning January, 2009, to the present, state and produce in CSV or Excel format:**
- a. the number of customer locations to which cable services are available, separately for residential customer locations and other customer locations, and the penetration rate;**
 - b. the number of standalone services and bundled services subscribers as of the last day of the month;**
 - c. the average revenue per subscriber in the month for standalone services and bundled services;**
 - d. the number of subscribers who first began subscribing to any of the Company's standalone services and bundled services in the specified month who were not subscribers to any of the Company's cable services in the prior month;**
 - e. the average revenue per new subscriber described in subpart (d) to standalone services and bundled services, and that churned from a competing provider, separately for each competing provider;**
 - f. the number of subscribers discontinuing all subscriptions to the Company's cable services;**
 - g. the average revenue per departing subscriber described in subpart (f) for standalone services and bundled services, and the number of subscribers that churned to competing provider, separately for each competing provider;**
 - h. the number of the Company's current subscribers who first began subscribing to any of the Company's other standalone services or bundled services in the specified month;**
 - i. the number of subscribers discontinuing their subscription to one or more of the Company's standalone services or bundled services, but who remain a subscriber to one or more of the Company's cable services at the end of the specified month;**
 - j. the churn rate for standalone services and bundled services;**
 - k. the per-subscriber acquisition cost or cost per gross addition for standalone services and bundled services and an explanation of how these values were calculated;**

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- l. the cost per subscriber to the Company’s MVPD service of acquiring video programming distribution rights and an explanation of how these values were calculated;**
- m. the cost per subscriber to the Company’s MVPD service of acquiring VOD and PPV distribution rights and an explanation of how these values were calculated;**
- n. the average gross and net advertising revenue per subscriber to the Company’s MVPD service and an explanation of how these values were calculated;**
- o. other variable costs per subscriber for standalone services and bundled services and an explanation of how these values were calculated; and**
- p. the value of each additional subscriber to the Company for standalone services and bundled services and an explanation of how these values were calculated.**

RESPONSE:

Information and data responsive to Request 4 have been provided for residential and commercial subscribers. Comcast does not have customers within a third category of “other customers.”

As discussed with the FCC, Comcast is providing data for subparts (a) through (j) at a zip code¹⁴ level from January 2011 to the present. [[

]]¹⁵ The data for each subpart are provided in separate exhibits for primary subscribers and bulk subscribers. A subset of Comcast’s subscribers are bulk billed accounts, that is, customers who reside in

¹⁴ Data is provided by five-digit U.S.P.S. zip codes.

¹⁵ [[Therefore, the first month for which data is provided for connecting and disconnecting subscribers and churn is February 2011, as these metrics require the prior month’s figures to provide such data.

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properties that are billed under bulk contracts, rather than individually.¹⁶ The zip code data from 2011 to the present exclude customers that have any courtesy products.¹⁷ Bulk accounts that are the master account holders may have substantial monthly recurring charges (in the thousands of dollars per month) while bulk subservient accounts will have a low monthly recurring charge because the master account pays some or all of the service charges. Therefore, the bulk accounts were broken out separately so as not to affect the monthly recurring charge calculations. Nevertheless, primary and bulk accounts represent total subscriber accounts, less courtesy accounts.

For 2009 to the present, Comcast has provided the data it maintained on standalone and bundled service subscribers at a sub-region level in response to subpart (b) of this Request, which is the number of ending subscribers by product mix. The data were not maintained or provided separately for residential and commercial subscribers for this period. Further, Comcast does not maintain historical data on activity (connects, disconnects, and churn) for standalone and bundled service subscribers at any level prior to 2011.

4(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.1(a) and Exhibit 4.1(b). The number of homes passed by product and by customer type is provided in Exhibit 4.1(a) for each of Comcast's sub-regions, which is the manner in which Comcast maintains homes passed data historically. As discussed with the FCC, Comcast does not maintain the number of homes passed at a zip code level historically. However, Comcast has prepared an estimate of homes passed by zip code as of June 2014, which has been provided in machine-readable Excel spreadsheet format as Exhibit 4.1(b). [[

¹⁶ Beginning in 2014, Comcast revised its methodology for counting and reporting on bulk billed customers. For bulk billed properties whose residents have the ability to receive additional cable services, such as additional programming choices or high-definition ("HD") or DVR services, Comcast now counts and reports customers in these types of properties based on the number of contracted units. For bulk billed properties whose residents are not able to receive additional cable services, the property is now counted as a single customer. Previously, Comcast had counted and reported these customers on an equivalent billing unit basis by dividing monthly revenue received under a bulk contract by the standard monthly residential rate where the property was located (the equivalent bulk unit or "EBU method"). The billable customers method is consistent with the methodology used by other companies in the cable industry, including Time Warner Cable, to count and report customers.

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Finally, “percent penetration” in Exhibit 4.1(a) has been calculated by dividing the number of continuing Comcast subscribers of each requested service or bundle in each sub-region by the number of households to which that service is available in that subregion.

4(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet or CSV format as Exhibit 4.2(a) through Exhibit 4.2(d), which provide the number of continuing Comcast subscribers – separately for primary and bulk subscribers – for each standalone and bundled service by zip code from 2011 to the present. In addition, in Exhibit 4.2(e), Comcast provides the number of standalone and bundled subscribers at a sub-region level from 2009 to the present. These data, which are the only historical data the Company maintains for customers by product mix (i.e., standalone and bundled services), are not available separately for residential and commercial subscribers.

4(c):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.3(a) through Exhibit 4.3(d), which provide the average monthly recurring charge for continuing subscribers for each standalone and bundled service by zip code from 2011 to the present.

As discussed with the FCC, [[

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In addition, Exhibits 4.3(e)-(f) provide the average revenue per user (“ARPU”) by product for residential and commercial subscribers for each of Comcast’s sub-regions from January 2009 to the present. This is the most granular level at which Comcast maintains ARPU figures, and it maintains these figures by product and not by product mix (i.e., standalone and bundled services).

4(d):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.4(a) and Exhibit 4.4(b), which provide the number of new connecting subscribers – separately for primary and bulk subscribers – for each standalone and bundled service by zip code from 2011 to the present.

4(e):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.5(a) and Exhibit 4.5(b), which provide the average MRC for new connecting subscribers – separately for primary and bulk subscribers – for each standalone and bundled service by zip code from 2011 to the present. As discussed with the FCC, Comcast does not maintain data in the ordinary course as to which provider a new customer churned from.

4(f):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.6(a) and Exhibit 4.6(b), which provide the number of subscribers discontinuing all subscriptions to the Company’s cable services separately for primary and bulk subscribers. The data are provided for each standalone or bundled service from which the customer disconnected by zip code from 2011 to the present.

4(g):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.7(a) and Exhibit 4.7(b), which provide the average MRC for subscribers that discontinued services altogether – separately for primary and bulk subscribers – for each standalone and bundled service by zip code from 2011 to the present. The data are provided for each standalone or bundled service from which the customer disconnected. As discussed with the FCC, [[

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¹⁸ {{
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4(h):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.8(a) and Exhibit 4.8(b), which provide the number of existing subscribers that upgraded by adding one or more new services – separately for primary and bulk subscribers – by zip code from 2011 to the present. The data are provided for the bundle of services to which the subscriber upgraded in that month.

4(i):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.9(a) and Exhibit 4.9(b), which provide the number of existing subscribers that downgraded by removing one or more services but remaining a customer of the Company – separately for primary and bulk subscribers – by zip code from 2011 to the present. The data are provided for the bundle of services from which the subscriber downgraded – i.e., if a customer subscribed to a video and voice bundle the previous month and disconnected either service, they will appear in the data as a downgrade from the video and voice bundle.

4(j):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.10(a) and Exhibit 4.10(b), which provide the churn rate – separately for primary and bulk subscribers – for each standalone and bundled service from which the customer disconnected altogether by zip code from 2011 to the present. The rate of “churn” has been calculated by dividing the number of subscribers that disconnected all services in a given month by the total number of subscribers of that standalone service or bundle of services at the beginning of the same month.

4(k):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.11(a) (residential) and Exhibit 4.11(b) (commercial). The data provided are the cost per new connect (“CPC”), which is the amount Comcast spends in advertising, marketing, and related sales efforts for each new connect. The data are tracked and provided per connected unit (e.g., video, Internet, or voice service). Thus, a new customer that signs up for two services (e.g., video and Internet services) would have approximately twice the cost per connect provided in Exhibits 4.11(a) and (b). Sales, marketing, and advertising expenditures are not tracked or allocated by product or service. Cost per connect is calculated by dividing the total amount that Comcast spends in advertising, marketing, and related sales efforts to acquire a new connect by total connects, which is the sum of services added for each new subscriber (i.e., new “connect”) and each subscriber who upgrades to a new or different service (i.e., “upgrade”). []

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The data are provided for each of Comcast’s regions, which is the most granular level at which Comcast maintains the data. The data are provided for residential cost per connect from January 2011 to the present and for commercial cost per connect from January 2010 to the present. Comcast does not maintain data on cost per connect prior to those periods.

4(l):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.12. These data contain total video programming cost per subscriber for each of Comcast’s sub-regions, which is the most granular level at which Comcast maintains the data. In addition to the total video programming costs per subscriber, the data are provided for the following video tiers: B1 (Basic), B2 (Digital Starter or Expanded Basic), D1 (Digital Preferred), and Economy (Digital Economy). The total video cost per subscriber is the total cost of video programming divided by the average number of video subscribers during that month. The data are provided for residential and commercial subscribers combined; programming packages and rates generally do not vary for residential and commercial subscribers.

[[

]] These costs are generally additive as one moves up to a broader tier of service, i.e., the total cost for subscribers to Comcast’s B2 service is the sum of the costs of the B1 tier and the B2 tier. [[

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4(m):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.13. These data provide the expenses Comcast incurred monthly from January 2009 to the present at a sub-region level for transactional video on demand (“TVOD”), subscription video on demand (“SVOD”), and pay-per-view (“PPV”), which is the most granular level at which Comcast maintains the data. The expenses incurred for SVOD reflect payments Comcast makes for standalone SVOD offerings; they do not include any allocation of licensing fees Comcast pays to distribute the linear feed of a programming network that also contains a VOD component. Those fees, which typically cover VOD rights, are reflected in the video programming expenses set forth in response to subpart (l) of this Request and provided in Exhibit 4.12.

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- 5. Separately for (i) every zip code identified in 2(e), and (ii) every DMA for where the Company provides MVPD service, and separately for every subscription VOD service offered by the Company, for every month from January, 2009, to the present, state:**
- a. the number of subscribers to the service at the end of the month;**
 - b. the number of subscribers that added the service;**
 - c. the number of subscribers that added the service at the same time that they added MVPD service from the Company;**
 - d. the number of subscribers that cancelled the service;**
 - e. the number of subscribers that cancelled the service at the same time that they cancelled MVPD service from the Company;**
 - f. the total subscription revenues;**
 - g. the total cost of video programming distribution rights;**
 - h. the total number of hours viewed; and**
 - i. the price of the service and a description of all discounts or promotions that were in effect.**

RESPONSE:

As discussed with the FCC, Comcast is providing information and data responsive to this Request for its Streampix service, which it launched in February 2012. Streampix is available to Comcast customers for a la carte purchase, as well as being an included feature in connection with Comcast's MVPD and/or Internet service.

Comcast licenses programming networks in which such licenses include the right to distribute on demand content for that network. Comcast does not regard this on demand content as a distinct SVOD service. Comcast does offer SVOD services such as Disney Family Movies, Bollywood, and the Jewish Channel. Such services have a relatively small number of subscribers and the revenue and expenses attributed to those services are set forth as a portion of the SVOD expenses reflected in Exhibit 4.13 (SVOD expenses) and as a portion of the SVOD revenue reflected in Exhibit 6.6 (VOD/PPV revenue).

Where Comcast is able to provide data for each DMA in which it operates in response to this Request, it has done so.

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5(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.1, which provide the ending number of Streampix subscribers by zip code from December 2011 to the present.¹⁹

5(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.2, which provide the number of new Streampix subscribers by zip code from December 2011 to the present.

5(c):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.3, which provide the number of new Streampix subscribers that also added MVPD service at the same time by zip code from December 2011 to the present.

5(d):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.4, which provide the number of Streampix subscribers that cancelled the service by zip code from December 2011 to the present.

5(e):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.5, which provide the number of Streampix subscribers that canceled the service at the same time they cancelled their MVPD service by zip code from December 2011 to the present.

5(f):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.6, which provide the revenue attributed to Streampix for each of Comcast's sub-regions from January 2012 to the present.

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¹⁹ While Comcast launched the Streampix service in February 2012, it had a small number of trial accounts beginning in December 2011.

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5(g):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.7, which provide the programming expenses for the Streampix service by month from January 2012 to present.

5(h):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibits 5.8(a) and 5.8(b), which provide the total number of video starts and the total number of hours viewed on the Streampix service by zip code and by DMA from September 2013 to the present, which is as far back as Comcast maintains data at the level requested.

5(i):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.9. Comcast offered three different promotions over the life of Streampix, but discontinued all such promotions in the fourth quarter of 2013: (1) a 3-month promotion (\$0 for 3 months rolling to \$4.99); (2) a 1-month promotion (\$0 for 1 month rolling to \$4.99) limited to online sales channels; and (3) a 24-month promotion (\$0 for 24 months rolling to \$4.99) offered with new subscriptions to certain double play service bundles (video and Internet). Currently, Comcast offers the Streampix service on an a la carte basis at \$4.99/month. Subscribers to certain video and Internet tiers also receive the Streampix service as part of their package of services. Exhibit 5.9 provides the number of subscribers who receive the Streampix service on any of the above bases (promotional, a la carte, or as part of a service plan) for each of Comcast's regions.

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6. Separately for (i) every zip code identified in 2(e), and (ii) every DMA for where the Company provides MVPD service, for every month from January, 2009, to the present, state:
- a. separately for the Company’s paid VOD service and PPV service, (1) the number of subscribers that used the service at least once; (2) the total revenues from subscribers; (3) the total cost of video programming distribution rights; and (4) the total number of hours viewed;
 - b. for free VOD service, (1) the number of subscribers that used the service at least once; (2) the total number of hours viewed; and (3) the total cost of video programming distribution rights; and
 - c. for the Company’s over-the-top video services (e.g., “TV everywhere), (1) the percentage of the Company’s MVPD subscribers that view video programming via the service, (2) the total number of hours viewed, and (3) the total cost of video programming distribution rights.

RESPONSE:

6(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 6.1 through Exhibit 6.6. Exhibit 6.1 provides the total number of PPV users, the number of PPV transactions, and PPV revenue by zip code from October 2012 to the present, which is as far back as Comcast maintains these data. Data is provided for those zip codes in which there was at least one PPV transaction recorded in that month. With respect to subpart (a)(3), Comcast incorporates by reference Exhibit 4.12, which provides PPV and transactional (i.e., paid) VOD expenses by sub-region, [[

]].

With respect to transactional (i.e., paid) VOD, Exhibit 6.3 provides the number of paid users, paid views, and paid revenue by zip code from May 2013 to the present, which is as far back as Comcast maintain these data.²⁰ In addition, Exhibit 6.4 reflects data on VOD usage [[

²⁰ TVOD data include programming provided on an electronic sell-through (“EST”) basis. With an EST purchase, a customer owns a programming asset (i.e., the ability to view a program) and Comcast stores it for them.

]].

Exhibit 6.5 provides (a) the TV Markets associated with each of Comcast’s regions, and (b) the zip codes associated with each TV Market. Comcast cannot confirm that the mapping from zip code to TV Market is entirely precise but believes it is generally accurate. Finally, Exhibit 6.6 provides combined revenue data for VOD and PPV for each of Comcast’s sub-regions. [[

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6(b):

Information and data responsive to this subpart are provided in Exhibit 6.3 and Exhibit 6.4 discussed above in response to subpart (a). Exhibit 6.3 provides the total number of free VOD users and free VOD views by zip code from May 2013 to the present, which is as far back as Comcast maintains these data. Exhibit 6.3 also provides the total number of VOD hours, which reflects hours for all types of VOD, including free and transactional VOD. Exhibit 6.4, described herein, also provides free VOD usage from January 2010 to the present [[

]]. As set forth in its response to subpart

(m) of Request 4, [[

]]; such programming is typically part of the

license fee Comcast pays video programming networks for their linear and on demand programming and those expenses are reflected in the figures provided in Exhibit 4.12.

6(c):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 6.7, which provides the percentage of Comcast’s video customers that used Comcast’s over-the-top (i.e., TV Everywhere) video service – broken out separately for use through Xfinitytv.com or related Comcast websites and for use through Comcast’s mobile device applications (“apps”) – by zip code back to January 2013. Comcast is unable to provide the average number of hours viewed per subscriber, and it did not maintain data in a way that would allow it to provide usage statistics prior to 2013.

The percentage of the company’s subscribers that view programming via the company’s over-the-top video service variously known as XfinityTV.com, Xfinity TV Go, and TV Everywhere was calculated by dividing the number of video starts initiated by an account within the period by the number of video subscribers within each zip code, as a video subscription is generally required to use the company’s over-the-top video service through the website or through the apps. A video start is triggered upon the successful initiation of linear streaming or VOD content playback within the web or app player without regard to the duration of the playback.

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While these data provide a reasonable estimate of usage, there are a number of limitations to these data. Usage activity is collected throughout the month while the subscriber totals are captured at month end. For example, a subscriber who started a video during the month may have disconnected video services prior to the end of the month; their usage would be captured in the numerator, but they would not be reflected as a subscriber in the denominator. Therefore, the numerator may contain activity from accounts that are not active subscriber accounts included in the denominator. [[

]]

Comcast does not maintain data on the cost of video programming distribution rights for its over-the-top (i.e., TV Everywhere) video offerings. [[

]] and those expenses are reflected in the figures provided in Exhibit 4.12.

7. For each month, from January, 2014, to the present, separately for subscribers to the Company’s standalone services and bundled services, and by month of tenure on the subscriber’s current plan, state and produce in CSV or Excel format:
- a. the number of subscribers as of the first day of the month;
 - b. the average revenue per subscriber;
 - c. the total number of disconnects from the service plan initiated either by the subscriber or the Company in the month;
 - d. the number disconnects from the service plan initiated by the Company for non-payment or other reasons in the month;
 - e. the number of mover disconnects from the service plan initiated by the subscriber in the month; and
 - f. the number of other disconnects from the service plan initiated by the subscriber in the month.

RESPONSE:

Information and data responsive to this Request have been provided in machine-readable CSV format as Exhibit 7.1 and Exhibit 7.2, which provide the requested data separately for primary subscribers and bulk subscribers. The figures are provided as of Comcast’s fiscal month-end, which is the 21st day of the month.²¹ As in Request 4, Comcast provides monthly recurring charge (“MRC”) in response to subpart (b) for average revenue per subscriber. All of the same qualifications regarding MRC detailed above apply equally here. As discussed with the FCC, [[]]. As such, Comcast has provided the data requested on beginning subscribers and disconnects by the tenure of the customer with Comcast (i.e., account history). Disconnects are broken out into four categories: (1) total disconnects, (2) non-payment disconnects, (3) voluntary disconnects, and (4) moving disconnects.

²¹ Comcast has provided data for service plans, which are defined as a product or set of products broken out by service tier, and is consistent with how it has responded to a request involving service plans in Request 89.

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8. As of December 31, 2013, and June 30, 2014, and for each DMA, state and produce in CSV or Excel format:
- a. the number of subscribers to the Company's MVPD service;
 - b. the number of the Company's subscribers who will become subscribers of Comcast's, SpinCo's, and Charter's MVPD service, stated as if the proposed TWC transaction and the proposed divestiture transactions had been consummated as of June 30, 2014;
 - c. the number of TV households, citing the source of this information and explaining how this number was calculated;
 - d. the number of Hispanic TV households, citing the source of this information and explaining how this number was calculated;
 - e. the number of Hispanic households that subscribe to MVPD service, citing the source of this information and explaining how this number was calculated;
 - f. the number of Hispanic households that subscribe to the Company's MVPD service; and
 - g. the number of the Company's Hispanic households who will become subscribers of Comcast's, Charter's and SpinCo's MVPD service, stated as if the proposed TWC transaction and the proposed divestiture transactions had been consummated as of June 30, 2014.

In the event that as a result of the proposed divestiture transactions, the assets, Hispanic households and the Hispanic subscribers in a single DMA will be divided between Comcast, Charter and SpinCo, for subparts (b) and (g), allocate the subscribers and Hispanic households to the receiving applicant, and provide an explanation of the methodology used to make the allocation.

RESPONSE:

8(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 8.1. The data are provided on a units cabled basis.

8(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 8.2. The data are provided on a units cabled basis and are provided separately for the Comcast and SpinCo systems following consummation of the proposed transactions. As discussed with the FCC, the subscriber

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numbers provided for post-transaction Comcast are for Comcast's systems only, and do not include subscribers from Charter and Time Warner Cable systems that Comcast will acquire in connection with the proposed transactions.

8(c)-(g):

Information and data responsive to subparts (c) through (g) of this Request have been provided in machine-readable Excel spreadsheet format as Exhibit 8.3. Figures provided for the number of TV households, Hispanic TV households, and Hispanic MVPD subscribers are based on data provided by Nielsen. [[

]] Comcast has also provided an estimate of its Hispanic MVPD subscribers as of December 2013 and June 2014. As discussed with the FCC, the subscriber numbers provided for post-transaction Comcast do not include subscribers from Charter and Time Warner Cable systems that Comcast will acquire in connection with the proposed transactions.

12. **State the name and address of each person that has entered or attempted to enter into, or exited from, the provision of each relevant service, from January 1, 2009, to the present. For each such person, identify the services it provides or provided; the area in which it provided the services, including whether the person has sold or distributed the relevant service in the United States; and the date of its entry into or exit from the market. For each entrant, state whether the entrant built a new facility, converted assets previously used for another purpose (identifying that purpose), or began using facilities that were already being used for the same purpose.**

RESPONSE:

Information and data responsive to this request have been provided in machine-readable Excel spreadsheet format as Exhibit 12.

Comcast's response to this request is based on information obtained through reasonable inquiry of knowledgeable employees of the company and from publicly available sources, but does not provide a comprehensive list of all entrants since 2009 in each relevant service. Although Comcast believes the sources on which its response is based to be generally reliable, it cannot fully verify the reliability of information obtained from third-party sources, many of which are self-reported.²²

With respect to the geographic areas in which the entrants listed in Exhibit 12 provide service, MVPD services provided by DBS providers are available on a nationwide basis, and the availability of other providers varies depending on the geographic reach of the cable systems deployed by cable operators and telephone companies that provide MVPD services. Information with respect to this geographic reach has been provided in Comcast's response to Request 2 above. OVD services and other Internet Edge services are generally available on a nationwide basis to households that have access to the Internet. Video programming services are generally available on a nationwide basis; the availability of certain specific video programming services may be regional or local (e.g., regional sports or local news networks). Internet access service provided by mobile wireless or satellite providers are generally available on a nationwide basis, and the availability of other providers varies depending on the geographic reach of the cable and telephone company systems that provide these services. Internet backbone services are generally available on a nationwide basis.

Comcast generally does not maintain information concerning the facilities used by the entities listed in Exhibit 12.

²² Exhibit 12 does not include information that is already provided regarding Comcast-owned programming networks to the extent such information is already provided in response to Request 18.

- 66. List (i) the 40 “settlement free routes” into the Company’s network described on page 159 of the Public Interest Statement, and (ii) all settlement-free peering agreements or arrangements that the Company has entered with any other person for each year since January 1, 2009, and identify which of these settlement-free links have been used to deliver Netflix, Inc.’s content to the Company’s network.**

RESPONSE:

In response to subpart (i), a list of the current settlement free routes into Comcast’s network has been provided in machine-readable Excel spreadsheet format as Exhibit 66.1. In response to subpart (ii), a list of all settlement-free peering agreements or arrangements that Comcast has entered with any other person for each year since January 1, 2009, has been provided in machine-readable Excel spreadsheet format as Exhibit 66.2. Comcast may not be in a position to know which routes a party uses to deliver traffic to Comcast’s network if it does not interconnect directly with Comcast, and Netflix may at times have routed traffic over settlement-free routes of which Comcast is unaware. [[

]]

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- 73. List, for any upgrades or downgrades to interconnection links from January 1, 2011, to the present, for the 25 largest networks that interconnect with the Company measured by maximum capacity usage measured using the industry standard 95th percentile method: (i) the dates of the upgrades or downgrades; (ii) the amount of capacity added or removed; (iii) the type of upgrade or downgrade; (iv) whether the upgraded was initiated by a request from the network operator, or undertaken by the Company on its own initiative; and (v) the reason for the upgrade or downgrade.**

RESPONSE:

In response to this Request, Comcast provides a list of capacity added (“upgrades”) or removed (“downgrades”) to interconnection links and the amount of capacity added or removed from January 1, 2011 to June 30, 2014, in machine-readable Excel spreadsheet format as Exhibit 73. The dates provided in Exhibit 73 are based on network deployment records and are reasonable approximations.

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- 75. For each day during the period from January 1, 2012, to May 31, 2014, and for each DMA where the Company provides VOD and PPV services, identify each IP point of presence through which traffic from (i) Cogent Communications Inc., and (ii) Level 3 Communications Inc., was delivered to the Company’s Internet access service subscribers in that DMA.**

RESPONSE:

Comcast provides a list of the DMAs in which it provided VOD and PPV services from January 2012 to May 2014 and the IP points of presence through which traffic from Cogent and Level 3 was delivered to Comcast during this period in machine-readable Excel spreadsheet format as Exhibit 75. The locations are provided monthly as Comcast may not know the particular date on which it first began exchanging traffic at a new IP point of presence, but once activated, Comcast would have exchanged traffic with Cogent and Level 3 every day during that month at that point of presence.

89. Provide the Company’s data as specified in Attachment A, which seeks data relating: to active and potential business service addresses; internet traffic exchange and interconnection; subscriber and plan data; daily data on the capacity and use of IP points of presence; and, for Comcast, Charter and SpinCo after the consummation of the proposed divestiture transactions, monthly data for cable service on subscribers and locations served.

RESPONSE:

Comcast provides the following responses to this Request:

“CTWC Congestion spreadsheet table Final”

Information and data responsive to this exhibit request have been provided in machine-readable Excel spreadsheet and CSV format as Exhibit 89.1 through Exhibit 89.4.

Exhibits 89.1 through 89.3 provide the requested data separately for Level 3 (ASN 3356), Cogent (ASN 174), and Global Crossing (ASN 3459), which was acquired by Level 3 in late 2011. The data include, for each IP point of presence (“POP”) and date, the total capacity and the inbound and outbound (1) total data traffic during peak and non-peak hours (in GB), (2) 95th percentile traffic during peak and non-peak hours (in Mbps), and (3) 50th percentile traffic during peak and non-peak hours (in Mbps). The data were summed across interfaces and routers to arrive at figures for each IP POP. The data have been provided for each day of the requested period and each IP POP in which Comcast exchanged traffic with any of the three counterparties.

Exhibit 89.4 provides, for each DMA and date: (1) total daily transactional Video-on-Demand (“TVOD”) revenue during peak and non-peak hours for each day during the requested period; (2) total daily PPV revenue for each day during the requested period;²³ and (3) the total number of hours of free Video-on-Demand viewed during peak and non-peak hours for each day from September 1, 2013, to May 31, 2014, [[

]]

“Interconnection Table – HB”

The most up-to-date information and data responsive to this exhibit request have been provided in machine-readable Excel spreadsheet as Exhibit 125.1. Please see the narrative response at Request 125.

“Exhibit 89.5 – Additional Requests” contains a series of data points responsive to specific requests from FCC staff. All traffic data are taken from Exhibit 89.5 and are measured at the 95th percentile in Mbps (i.e., these are the traffic utilization figures from Exhibit 89.5). All capacity data are in Mbps.

²³ Comcast does not maintain time-stamped transactional data for PPV and thus cannot disaggregate the data to distinguish between peak and non-peak hours.

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Total Traffic Worksheet

“Total Traffic” contains total inbound and outbound traffic data and total capacity data for Comcast’s broadband network for the period from January 2014 through June 2014.

Transit Traffic Worksheet

“Transit Traffic” contains inbound and outbound traffic data and capacity data for transit sold by Comcast to counterparties in June 2014.

Paid Peering Traffic Worksheet

“Paid Peering Traffic” contains inbound and outbound traffic data and capacity data for paid peering arrangements between Comcast and counterparties in June 2014.

Free Peering Traffic Worksheet

“Free Peering Traffic” contains inbound and outbound traffic data and capacity data for settlement-free peering arrangements between Comcast and counterparties in June 2014. Data for traffic exchange arrangements that encompass both a settlement-free component and a paid component (but cannot be divided into their subparts) are included in this calculation {{ }}. Additionally, these data include {{ }}.

Swing Volume Customers Worksheet

“Swing Volume Customers” contains inbound and outbound traffic data and capacity data for certain specified networks with large traffic volumes in June 2014. These data encompass only the traffic exchanged by these networks and Comcast through their direct interconnections. These data are provided in response to the staff’s request for data for networks with “swing volumes,” including {{ }}. Although Comcast is not certain how the staff would define “swing volumes,” Comcast is providing data for the five counterparties with which it exchanges the largest volumes of traffic.

Top 25 Customer Share Worksheet

“Top 25 Customer Share” contains information regarding the 25 networks with which Comcast exchanged the largest volumes of traffic. It includes the percentage of Comcast’s total inbound and outbound traffic that was exchanged with these networks in June 2014, the percentage of Comcast’s total capacity that these networks accounted for in June 2014, and the percentage of total capacity added by Comcast in June 2014 that was added to interconnection points with these networks.

“TWC Subscriber Final”

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Information and data responsive to this Request have been provided in machine-readable Excel spreadsheet and CSV format as Exhibit 89.7 through Exhibit 89.9. Exhibits 89.7 and 89.8 provide data on Comcast’s subscriber plans, which have been provided by product (video, voice, and Internet) and by tier of service (e.g., Digital Preferred video, Blast Internet) for each zip code and separately for primary and bulk subscribers.²⁴ These exhibits contain data for the following fields requested: date, zip, plan_name, internet, mvpd, video_tier, voice, unlimited_voice, subs and disconnects overall and by tenure,²⁵ and arpsr overall and by tenure.²⁶ [[

]]

For the fields requested on contracts and early termination fees associated with each service plan, Comcast has provided information and data in Exhibit 89.9. Exhibit 89.9 provides, for each zip code where data were available, the number of customers under a contract (i.e., a minimum term commitment) where the contract was entered into during or after November 2012 in the Northeast and Central Division and during or after January 2013 in the West Division, broken out by the term of the contract and the applicable initial early termination fee. {{

}}

For the other fields requested, [[
]] and provides the following narrative response:

Internet Tiers and Associated Speeds

As reflected in Exhibits 89.7 and 89.8, there are a number of residential and commercial Internet tiers available to Comcast subscribers. Comcast offers certain Internet speeds depending on the Internet tier.

Residential Internet Tiers: Between June 2013 to June 2014, Comcast offered the residential Internet tiers listed below. Customers received the following downstream and

²⁴ Comcast incorporates by reference herein its description of bulk accounts in response to Request No. 4.

²⁵ As discussed with the FCC, [[
]] As such, Comcast has provided the data requested by the tenure of the customer with Comcast (i.e., account history).

²⁶ As provided in response to other requests, Comcast has provided monthly recurring charge (“MRC”) by service plan. A description of MRC has been provided in response to Request No. 4(c) and is incorporated by reference herein.

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upstream speeds based on the tier to which they subscribed, listed as of June 2013 and as of June 2014. [[

27

[[

]]

28

[[

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29

[[

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]]

Business Class Internet Tiers: Between June 2013 to June 2014, Comcast offered the commercial Internet tiers listed below. Customers received the following downstream and upstream speeds based on the Internet tier to which they subscribed, listed as of June 2013 and as of June 2014. [[

]]

Video Tiers and Number of Programming Networks

As reflected in Exhibits 89.7 and 89.8, Comcast offered a number of video programming tiers to its residential and commercial subscribers. Comcast offers a range of video channels depending on the video programming tier provided.

Between June 2013 to June 2014, Comcast provided the video programming tiers listed below. The number of video channels provided for each video programming tier [[

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]]. However, in general, customers received the following range of video channels based on the tier to which they subscribed as of June 2014.

Residential Video Tier³¹	Number of Video Channels
Basic (B1; Broadcast Basic)	25-30
Digital Economy	45-50 channels
Digital Starter (D0)	44-55 (when combined with Basic Video: 70-85)
Digital Preferred (D1; Digital Classic)	65-70 (when combined with Digital Starter: 145-155)

Comcast offers commercial customers tiers within its Business Services Private View and Public View offerings, for which data have been provided in Exhibits 89.7 and 89.8. Those tiers vary in the number of video channels provided, but the following are approximate ranges of channels as of June 2014: [[

³¹ [[

]] {{ }}

³² [[]]

³³ [[]]

]]

“CTWC Cable Services Final”

Information and data responsive to this exhibit request have been provided in machine-readable Excel spreadsheet as Exhibit 89.10 through Exhibit 89.13.

Exhibit 89.10 provides cable service location and subscription data for the Company (pre-transaction and post-transaction), Comcast Corp. (pre-transaction and post-transaction), and SpinCo (post-transaction only), as of December 31, 2013 and June 30, 2014. For each company and company-date combination, the exhibit provides the number of residential and other MVPD locations, the number of residential and other Internet access locations, and the number of residential and other telephone locations. In addition, the exhibit includes the number of residential and other MVPD subscribers, the number of residential and other Internet access subscribers, and the number of residential and other telephone subscribers.

The data provided in Exhibit 89.10 relate exclusively to Comcast: no data are provided for Time Warner Cable or Charter Communications Inc. and the data provided for SpinCo is based solely on Comcast data. The subscriber data included in this exhibit are reported on a units cabled basis.

Exhibit 89.11 provides MVPD service data by census block. For each census block in which Comcast offers MVPD services, the exhibit indicates which entity would offer MVPD services to the Company’s subscribers were the transaction consummated as of June 30, 2014: Comcast Corp. (indicated with a “0” in column B) or SpinCo (indicated with a “2” in column B).

Exhibit 89.11 is based exclusively on Comcast data: no data are provided for Time Warner Cable or Charter Communications Inc. and the information provided for SpinCo is based solely on Comcast data. [[

]]

Exhibit 89.12 provides Internet access data by census block, as of June 30, 2014. For each census block, the exhibit indicates the entity or entities that would provide residential Internet access service if the transaction were consummated as of June 30, 2014 (“0” for Comcast Corp.; “1” for Charter Communications, Inc.; “2” for SpinCo) and the technology code of the Internet access service. It also provides the total number of residential locations in the corresponding census block group. [[

]] Also included in this exhibit are the number of residential customer locations for which the Company’s Internet access service is available.

To enable Comcast to supply historical customer locations data (in Exhibit 89.13), the data provided are based on data previously gathered for purposes of reporting to the National Telecommunications and Information Administration (“NTIA”). The data that will be provided in Comcast’s forthcoming Form 477 filing on October 1, 2014 will reflect newly established reporting requirements issued by the FCC. It is therefore possible that discrepancies will exist between the data provided in Exhibits 89.12 and 89.13.g and the data provided as part of the October 1 Form 477 filing. In the event that material discrepancies arise, Comcast will submit revised versions of Exhibits 89.12 and 89.13.g.

Also provided in Exhibit 89.12 are the maximum download and upload speeds, the downstream and upstream bandwidth of the Internet access service, and the number of residential Comcast subscribers subscribing to Internet access service for each specified downstream and upstream bandwidth. [[

]] the maximum download and upload speeds included in this exhibit are maximum actual download and upload speeds received by at least one subscriber in the census block. Upload and download speeds and bandwidths in this exhibit are expressed in Mbps.

Exhibits 89.13.a through 89.13.g provide historical Internet access data, as of June 30, 2011 (Ex. 89.13.a), December 31, 2011 (Ex. 89.13.b), June 30, 2012 (Ex. 89.13.c), December 31, 2012 (Ex. 89.13.d), June 30, 2013 (Ex. 89.13.e), December 31, 2013 (Ex. 89.13.f), and June 30, 2014 (Ex. 89.13.g). Data of the type requested are not available on a census-block level for December 31, 2009, and for 2010. For each census block, the exhibits provide the technology code of the Internet access service. They also provide the total number of residential locations in the corresponding census block group. [[

]] For December 31, 2012 and later, the exhibits include the number of residential customer locations for which the Company’s Internet access is available. These data are not available for 2011 and the first half of 2012. As discussed above, there may be differences between the number provided here for June 30, 2014 and the

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number that will be provided in Comcast’s forthcoming Form 477 filing on October 1, 2014.

Also included in these exhibits are the maximum download and upload speeds, the downstream and upstream bandwidth of the Internet access service, and the number of residential Comcast subscribers subscribing to Internet access service for each specified downstream and upstream bandwidth. [[

]] the maximum download and upload speeds included in these exhibits are maximum actual download and upload speeds received by at least one subscriber in the census block. In Exhibit 89.13.g (June 30, 2014), upload and download speeds and bandwidths are expressed in Mbps. In Exhibits 89.13.a through 89.13.f (covering earlier dates), upload and download rates are expressed with rate codes that correspond to speed ranges, using the following convention: {{

}}

“Dedicated Services”

Information and data responsive to this exhibit request have been provided in machine-readable Excel spreadsheet as Exhibit 89.14 through Exhibit 89.16. The data provided in these exhibits relate exclusively to Comcast: no data are provided for customers of Time Warner Cable or Charter and the data provided for SpinCo are based solely on Comcast data.

Exhibit 89.14 provides the locations of current Comcast business customers in zip codes in which both Comcast and Time Warner Cable provide active business services. {{

}}

Exhibit 89.15 provides the locations of current Comcast business customers in zip codes in which both Comcast and Charter provide active business services, to the extent that,

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after consummation of the proposed divestiture transactions, these locations will continue to be supplied business services by Comcast, but not by Charter or SpinCo. {{
}}

Exhibit 89.16 provides the locations of current Comcast business customers in zip codes in which both Comcast and Charter provide active business services, to the extent that, after consummation of the proposed divestiture transactions, these locations will be supplied business services by SpinCo, but not by Comcast. {{

}}

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94. For each zip code identified in response to Specification 2(e) of the Information and Data Request issued to the Company on August 21, 2014, and for the Company as a whole, separately for primary residential subscribers, bulk residential subscribers and commercial subscribers, and as of the end of each month from January, 2011, through June, 2014, state and produce in CSV or Excel format:
- a. the number of subscribers to Standalone Services and Bundled Services that discontinued their subscriptions to all of the Company's Cable Services during the month, identifying the following possible reasons for disconnection: voluntary, mover, non-payment, and other, and provide a description of the types of disconnections included in each category;
 - b. the number of the Company's subscribers that discontinued their subscriptions to the Company's MVPD Service during the month but subscribed to one or more of the Company's other Cable Services as of the end of the month;
 - c. the number of the Company's subscribers that discontinued their subscriptions to the Company's Internet Access Service during the month but subscribed to one or more of the Company's other Cable Services as of the end of the month;
 - d. the number of the Company's subscribers that discontinued their subscriptions to the Company's Telephone Services during the month but subscribed to one or more of the Company's other Cable Services as of the end of the month;
 - e. the number of the Company's subscribers that began a subscription to the Company's MVPD Service during the month and subscribed to at least one of the Company's other Cable Services at the end of the previous month;
 - f. the number of the Company's subscribers that began a subscription to the Company's Internet Access Service during the month and subscribed to at least one of the Company's other Cable Services at the end of the previous month;
 - g. the number of the Company's subscribers that began a subscription to the Company's Telephone Services during the month and subscribed to at least one of the Company's other Cable Services at the end of the previous month;
 - h. the number of subscribers to the Company's Internet Access service that switched to a Service Plan offering a higher download speed during the month (excluding automatic upgrades provided by the Company at no additional cost to the subscriber);
 - i. the number of subscribers to the Company's Internet Access service whose download speed was increased during the month as a result of an automatic upgrade by the Company provided at no additional cost to the subscriber;
 - j. the number of subscribers to the Company's Internet Access service whose download speed was increased during the month as a result of a request by the subscriber;

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- k. the number of subscribers to the Company’s Internet Access Service that switched to a Service Plan offering a lower download speed during the month;**
- l. the number of subscribers to the Company’s MVPD Service that switched to a Service Plan with more channels during the month;**
- m. the number of subscribers to the Company’s MVPD Service that switched to a Service Plan with fewer channels during the month;**
- n. the number of subscribers to the Company’s Telephone Services that switched to a Service Plan with more features during the month; and**
- o. the number of subscribers to the Company’s Telephone Service that switched to a Service Plan with fewer features during the month.**

RESPONSE:

94(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 94.1(a) through Exhibit 94.1(g), which provide the number of subscribers discontinuing all subscriptions to the Company’s Cable Services, by zip code, separately for primary and bulk residential subscribers, and commercial subscribers. The data identify the following categories of disconnecting customers: total disconnects; non-payment; voluntary disconnects; mover; and other involuntary disconnects.

[[

]] The data are provided separately for each standalone or bundled service from which the customer disconnected.

[[

]]

“Total disconnects” includes all subscribers who discontinued their subscriptions to all of Comcast’s Cable Services during the month, for any reason.

“Non-payment” includes all subscribers whose subscriptions were discontinued by Comcast because of failure to pay their subscription charges. Comcast will automatically generate a disconnect after a payment has become overdue for a certain period of time,

[[]].

[[

]]

For the data from May 2012 through June 2014, “voluntary disconnects” [[

]].

“Mover” includes subscribers who disconnected from Comcast and indicated that they were moving residences as the reason for disconnecting. As discussed above, “mover” disconnect data [[]].

“Other involuntary” includes, [[

]]

Except for non-payment, all disconnect reasons are [[

]]

94(b):

Information and data responsive to subpart (b) have been provided in machine-readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Video Disconnect.” Exhibit 94.2 provides the number of customers by zip code, from January 2011 to June 2014, who discontinued subscribing to Comcast’s video service but maintained a subscription to another Comcast Cable Service. The data in Exhibit 94.2 responsive to subpart (b) are provided separately for primary residential, bulk residential, and commercial subscribers.

94(c):

Information and data responsive to subpart (c) have been provided in machine-readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Internet Disconnect.” Exhibit 94.2 provides the number of customers by zip code, from January 2011 to June 2014, who discontinued subscribing to Comcast’s Internet access service but maintained a subscription to at least one other Comcast Cable Service. The data in Exhibit 94.2 responsive to subpart (c) are provided separately for primary residential, bulk residential, and commercial subscribers.

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94(d):

Information and data responsive to subpart (d) have been provided in machine-readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Voice Disconnect.” Exhibit 94.2 provides the number of customers by zip code, from January 2011 to June 2014, who discontinued subscribing to Comcast’s telephone service but maintained a subscription to at least one other Comcast Cable Service. The data in Exhibit 94.2 responsive to subpart (d) are provided separately for primary residential, bulk residential, and commercial subscribers.

94(e):

Information and data responsive to subpart (e) have been provided in machine-readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Video Add.” Exhibit 94.2 provides the number of customers by zip code, from January 2011 through June 2014, who began subscribing to Comcast’s MVPD service but already subscribed to at least one other Comcast Cable Service. The data in Exhibit 94.2 responsive to subpart (e) are provided separately for primary residential, bulk residential, and commercial subscribers.

94(f):

Information and data responsive to subpart (f) have been provided in machine-readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Internet Add.” Exhibit 94.2 provides the number of customers by zip code, from January 2011 through June 2014, who began subscribing to Comcast’s Internet access service but already subscribed to at least one other Comcast Cable Service. The data in Exhibit 94.2 responsive to subpart (f) are provided separately for primary residential, bulk residential, and commercial subscribers.

94(g):

Information and data responsive to subpart (g) have been provided in machine-readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Voice Add.” Exhibit 94.2 provides the number of customers by zip code, from January 2011 through June 2014, who began subscribing to Comcast’s telephone service but already subscribed to at least one other Comcast Cable Service. The data in Exhibit 94.2 responsive to subpart (g) are provided separately for primary residential, bulk, and commercial subscribers.

94(h):

Information and data responsive to subpart (h) have been provided in machine-readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Internet Upgrades.” Exhibit 94.2 provides the number of customers by zip code, from January 2011 through June 2014, who upgraded to a higher tier of Comcast’s Internet access service. In general, a higher tier of Comcast Internet access service corresponds to service with a

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higher download speed. The data in Exhibit 94.2 responsive to subpart (h) are provided separately for primary residential and commercial subscribers. [[

]]

94(i):

Information responsive to subpart (i) has been provided as Exhibit 94.3. Comcast [[

]]. Exhibit 94.3 identifies when speed upgrades occurred over the relevant period in each Comcast division and region, broken out by tier of service. The timing of each upgrade is generally identified by month, except for upgrades that occurred in 2011. Comcast [[

]].

94(j):

[[

]] The number of customers who began subscribing to a higher tier of Internet access service is provided in Exhibit 94.2 in response to subpart (h) of this Request.

94(k):

Information and data responsive to subpart (k) have been provided in machine-readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Internet Downgrades.” Exhibit 94.2 provides the number of customers by zip code, from January 2011 through June 2014, who downgraded to a lower tier of Comcast Internet access service (i.e., customers who already subscribed to Comcast’s Internet access service). In general, a lower tier of Comcast Internet access service corresponds to service with a slower download speed. The data in Exhibit 94.2 responsive to subpart (k) are provided separately for primary residential and commercial subscribers. [[

]]

94(l):

Information and data responsive to subpart (l) have been provided in machine-readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Video Upgrades.” Exhibit 94.2 provides the number of customers by zip code, from January 2011 through June 2014, who upgraded to a higher tier of Comcast MVPD service (i.e., customers who already subscribed to Comcast’s MVPD service). In general, a higher tier of Comcast MVPD service corresponds to service with more channels. [[

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]] Therefore, data in Exhibit 94.2 responsive to subpart (l) are provided separately for primary residential and bulk residential subscribers only.

94(m):

Information and data responsive to subpart (m) have been provided in machine-readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Video Downgrades.” Exhibit 94.2 provides the number of customers by zip code, from January 2011 through June 2014, who downgraded to a lower tier of Comcast MVPD service (i.e., customers who already subscribed to Comcast’s MVPD service). In general, a lower tier of Comcast MVPD service corresponds to service with fewer channels. [[

]] Therefore, data in Exhibit 94.2 responsive to subpart (m) are provided separately for primary residential and bulk residential subscribers only.

94(n):

Information and data responsive to subpart (n) have been provided in machine readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Voice Upgrades.” Exhibit 94.2 provides the number of customers, by zip code, from January 2011 through June 2014, who upgraded to a higher tier of Comcast voice service (i.e., customers who already subscribed to Comcast’s voice service). In general, a higher tier of Comcast voice service corresponds to service with more features. Comcast also offers certain add-on features (e.g., international calling) that voice subscribers may purchase to supplement the features included in their chosen tier of service. Exhibit 94.2 does not include data on customers who elected to purchase add-on features because [[

]]. Therefore, data in Exhibit 94.2 responsive to subpart (m) are provided separately for primary residential and bulk residential subscribers only.

94(o):

Information and data responsive to subpart (o) have been provided in machine readable Excel spreadsheet format as Exhibit 94.2 in worksheets labeled “Voice Downgrades.” Exhibit 94.2 provides the number of customers, by zip code, from January 2011 through June 2014, who downgraded to a lower tier of Comcast voice service (i.e., customers who already subscribed to Comcast’s voice service). In general, a lower tier of Comcast voice service corresponds to service with fewer features. As discussed above, Exhibit 94.2 does not include data on customers who elected to remove add-on features from their subscriptions because [[

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J]. Therefore, these data are provided separately for primary residential and bulk residential subscribers only.

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95. As of December 31, 2014, and for each DMA, state and produce in CSV or Excel format:

- a. the number of subscribers to the Company’s MVPD service;**
- b. the number of the Company’s subscribers who will become subscribers of Comcast’s, Spinco’s, and Charter’s MVPD service, stated as if the proposed TWC transaction and the proposed divestiture transactions had been consummated as of December 31, 2014;**
- c. the number of TV households, citing the source of this information and explaining how this number was calculated;**
- d. the number of Hispanic TV households, citing the source of this information and explaining how this number was calculated;**
- e. the number of Hispanic households that subscribe to MVPD service, citing the source of this information and explaining how this number was calculated;**
- f. the number of Hispanic households that subscribe to the Company’s MVPD service; and**
- g. the number of the Company’s Hispanic households who will become subscribers of Comcast’s, Charter’s and SpinCo’s MVPD service, stated as if the proposed TWC transaction and the proposed divestiture transactions had been consummated as of December 31, 2014.**

In the event that as a result of the proposed divestiture transactions, the assets, Hispanic households and the Hispanic subscribers in a single DMA will be divided between Comcast, Charter and SpinCo, for subparts (b) and (g), allocate the subscribers and Hispanic households to the receiving applicant, and provide an explanation of the methodology used to make the allocation.

RESPONSE:

95(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 95. The data are provided on a units cabled basis.

95(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 95. The data are provided on a units cabled basis and are provided separately for the Comcast and SpinCo systems upon completion of the proposed transactions. As discussed with the FCC, the subscriber numbers provided for

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post-transaction Comcast are for Comcast's systems only, and do not include subscribers from Charter and Time Warner Cable systems that Comcast will acquire in connection with the proposed transactions.

95(c)-(g):

Information and data responsive to subparts (c) through (g) have been provided in machine-readable Excel spreadsheet format as Exhibit 95. Figures provided for the number of TV households, Hispanic TV households, and Hispanic MVPD subscribers are based on data provided by Nielsen. [[

]]. Nielsen releases TV household estimates annually and Comcast is providing the annual figures as of January 2015. Nielsen releases Hispanic TV households and Hispanic MVPD subscribers quarterly; Comcast is providing data from Nielsen's February 2015 update. Comcast has also provided an estimate of its Hispanic MVPD subscribers as of December 2014. As discussed with the FCC, the subscriber numbers provided for post-transaction Comcast do not include subscribers from the Charter and Time Warner Cable systems that Comcast will acquire in connection with the proposed transactions.

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- 110. a. Submit one copy of the Company’s 477 data filing for June 2014 and December 2014.**
- b. Submit one copy of the Company’s June 2014 and December 2014 State Broadband Initiative data.**

RESPONSE:

110(a):

Data as of June 30, 2014 and December 30, 2014 responsive to this subpart have been provided in machine-readable Excel spreadsheet or CSV format as Exhibits 110.1(a)-(f). Exhibits 110.1(a) and 110.1(d) provide broadband deployment data in the format specified at http://transition.fcc.gov/form477/FBD/formatting_fbd.pdf; Exhibits 110.1(b) and 110.1(e) provide broadband subscription data in the format specified at http://transition.fcc.gov/form477/FBS/formatting_fbs.pdf; Exhibits 110.1(c) and 110.1(f) provide voice subscription data in the format specified at http://transition.fcc.gov/form477/FVS/formatting_fvs.pdf.

110(b):

Data as of June 30, 2014 responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibits 110.2(a)(1)-110.2(a)(136). Data as of December 2014 responsive to this subpart are consolidated with the Form 477 data as of December 30, 2014 and that have been provided in response to Request 110(a).

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- 120. For each cable system identified in response to Specification 2(f) of the Information and Data Request issued to the Company on August 21, 2014, and for the Company as a whole, for each month beginning January 1, 2011 and ending December 31st, 2014, (a) state the number of the Company’s budgeted subscribers for each Cable Service in each month, and (b) produce the budgeted profit and loss statements in the same format as [BEGIN HIGHLY CONFIDENTIAL DATA] the budgeted profit and loss statements [END HIGHLY CONFIDENTIAL DATA] produced to the Commission as backup data associated with Exhibits 23.1, 23.2, 24, and 25 on September 18, 2014.**

RESPONSE:

As discussed with FCC staff, Comcast is providing information and data for subparts (a) and (b) at the regional level consistent with the backup data for Exhibits 23.1, 23.2, 24, and 25 submitted to the FCC on September 18, 2014, and for the company as a whole.

120(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 120.1.

120(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibits 120.2.(a)(1)-120.2(a)(51). Comcast’s 2014 budgeted profit and loss statements (“budgeted P&Ls”) were provided as backup data to the FCC on September 18, 2014.

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121. For each cable system identified in response to Specification 2(f) of the Information and Data Request issued to the Company on August 21, 2014, and for the Company as a whole, for each month beginning January 1, 2011 and ending December 31st, 2014, (a) state the number of the Company’s actual subscribers for each Cable Service, and (b) produce the actual profit and loss statements in the same format as requested in Specification 120.

RESPONSE:

As discussed with the FCC, Comcast is providing information and data for subparts (a) and (b) at the regional level consistent with the backup data for Exhibits 23.1, 23.2, 24, and 25 submitted to the FCC on September 18, 2014, and for the company as a whole.

121(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 121.1.

121(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibits 121.2(a)(1)-121.2(a)(85). [[

]] statements have been produced as separate Excel spreadsheets for each region and for the company as a whole.

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- 124. For the Company as a whole, for all active subscriber accounts for the Company’s residential Internet Access Service as of June 1, 2013, state the percentage of these accounts that were still subscribed to the Company’s Internet Access Service on May 31, 2014. For accounts that were no longer subscribed to the Company’s Internet Access Service as of May 31, 2014, state the percentage of accounts that discontinued the Internet Access Service for each of the following reasons: voluntary disconnect; mover disconnect; non-payment disconnect; disconnect for other reasons; or disconnected Internet Access Service but still subscribed to other Cable Services.**

RESPONSE:

Information and data responsive to this Request have been provided in machine-readable Excel spreadsheet format as Exhibit 124. Exhibit 124 provides the number of residential, non-bulk, non-courtesy customers subscribing to the Company’s Internet Access Service on June 1, 2013, the number and percentage of those customers who maintained an Internet Access Service subscription as of May 31, 2014, the number and percentage of those customers who discontinued subscribing to all Comcast Cable Services (“disconnects”), and the number and percentage of those customers who discontinued subscribing to Internet access service but maintained at least one other Cable Service subscription with Comcast as of May 31, 2014 (“Internet drops”). The data regarding customers who discontinued subscribing to all Comcast Cable Services are provided separately by the reason provided for discontinuing service. As discussed with FCC staff, Comcast has provided percentages of accounts discontinued for the following reasons: voluntary disconnect, mover disconnect, non-payment disconnect, disconnect for other reasons. Comcast incorporates its response to Request 94, which describes each reason category for discontinuing subscriptions.

125. Update all of the fields contained in the “Interconnection” table, submitted in response to the August 21, 2014 Information and Data Request, to include data up to December 31st, 2014. Additionally, add a field that provides, for each month for the period beginning January, 2009, and ending December, 2014, a measure of the 95th percentile of utilization that either was or would be used for the purposes of billing and explain how this 95th percentile measurement is calculated.

RESPONSE:

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 125.1 and Exhibit 125.2. Comcast further states that the method of measuring the 95th percentile of utilization reflected in the figures provided in Exhibit 125.1 would be the same method used for purposes of billing. As discussed with FCC staff, [[

]].

The data provided in Exhibit 125.1 on capacity, utilization in, and utilization out are provided from January 2012 to the present, {{

}} The data provided reflect best estimates where such estimates could be provided.³⁴

Further, as discussed with and agreed to by the FCC staff, Comcast has not provided “total inbound traffic in gigabytes (gb) handed off by the customer to the Company

³⁴ As discussed with the FCC staff, {{

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during the month,” the “inbound traffic in gigabytes (gb) handed off by the customer to the Company that will terminate on the Company's network,” or the “total outbound traffic in gigabytes (gb) handed off by the Company to the customer during the month.” Furthermore, pursuant to discussions with the staff, the FCC has agreed to defer Comcast’s obligation to provide the “contract document identification code used to identify the applicable contract in the Information Request;” the “date when transit service arrangement commenced;” and the “date when transit service arrangement is set to end.”

Transit Sale Worksheet

The data provided in “Transit Sale” include the date, customer name, customer name used when doing business with Comcast, capacity, utilization in, utilization out, total revenue, non-recurring revenue, and recurring revenue. The capacity data reflect the total amount of capacity between a customer and Comcast across all IP Points of Presence where Comcast interconnects with that customer. Capacity is typically provisioned through 1GigE (1 Gbps) or 10GigE (10 Gbps) ports. Utilization in and utilization out are inbound and outbound traffic measured at the 95th percentile in Mbps, which is an industry standard for measuring traffic with interconnection counterparties and the measure typically reflected in the interconnection agreements Comcast has with such parties. Comcast calculated the 95th percentile inbound and outbound for each interface and aggregated those measurements across interfaces and routers to arrive at total figures for each counterparty.

As discussed with the FCC staff, {{

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Total revenue is the sum of non-recurring revenue and recurring revenue. Non-recurring revenue reflects money paid by a customer to Comcast for charges that are not expected to be incurred on a regular basis in other months. For example, non-recurring revenue may include charges for additional ports. Recurring revenue is the amount of money billed other than non-recurring revenue. {{

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}} These parties appear on multiple tabs of Exhibit 125.1.

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Transit Purchase Worksheet

The data provided in “Transit Purchase” include the date, provider name, provider name used when doing business with Comcast, capacity, utilization in, utilization out, and total revenue.

Total revenue is the amount Comcast has paid to counterparties for transit services. Comcast does not maintain data separately for non-recurring and recurring revenue paid to transit providers.³⁷ The figures provided for capacity, utilization in and utilization out follow the same format and methodology as described in the “Transit Sale” section of this response.

Paid Peering Sales Worksheet

The data provided in “Paid Peering Sales” include date, customer name, customer name used when doing business with Comcast, capacity, utilization in, utilization out, total revenue, non-recurring revenue, and recurring revenue. With respect to these data, Comcast incorporates the response to the “Transit Sale” section of this response.³⁸

Paid Peer Node Worksheet

The data provided in “Paid Peer Node” include the date, facility name, street address, city name, zip code, ownership, ASN, customer name, customer name used when doing business with Comcast, node capacity, node utilization in and node utilization out. Comcast incorporates the descriptions of the data set forth above in the “Transit Sale” section of this response.

Node capacity reflects the amount of capacity between a customer and Comcast at an IP Point of Presence where Comcast interconnects with that customer. Node utilization in and node utilization out are measured at the 95th percentile, and the figures are summed and then aggregated across interfaces and routers to provide figures for the IP POP.

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In response to the request for the “Internet Protocol version at the IP point of presence where interconnection takes place,” [[

]] Information and data responsive to this request have been provided in machine-readable Excel spreadsheet as Exhibit 125.2. Exhibit 125.2 provides a current list of paid peers and settlement-free peers that use IPv6 with Comcast and the IP Points of Presence where they do.

Free Peer Traffic Worksheet

The data provided in “Free Peer Traffic” include the date, peer name, peer name used when doing business with Comcast, peer capacity, utilization in, and utilization out with Comcast’s settlement-free peers. With respect to these data, Comcast incorporates the explanation set forth in the “Transit Sale” section of this response.

The peer capacity data reflect the total amount of traffic volume capacity that either Comcast or a peer can send or receive to the other’s network. As discussed above, capacity is typically provisioned through 1GigE or 10GigE ports. Accordingly, peer capacity and company capacity figures are identical.

{{

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Free Peer Node Worksheet

The data provided in “Free Peer Node” include the date, facility name, street address, city name, zip code, ownership, ASN, peer name, peer name used when doing business with Comcast, node capacity, node utilization in and node utilization out. With respect to these data, Comcast incorporates the explanation set forth in the “Transit Sale” portion of this response. Finally, Comcast incorporates by reference its response in the “Paid Peer Node” on IP technology and Exhibit 125.2, which provides a current list of paid peers and settlement-free peers that use IPv6 with Comcast and the IP Points of Presence where they do.

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- 126. For the Company as a whole, for each month beginning January, 2014, and ending December 2014, and for the Company’s residential Standalone Services and Bundled Service, state the number of residential subscribers who first began subscribing to any of the Company’s Cable Services in the specified month who were not subscribers to any of the Company’s Cable Services in the previous month (“new connects”), separately for: (a) subscribers that recently moved to a new residence and were initiating services for their new residence (“mover new connects”); and (b) all other subscribers (“non-mover new connects”). Provide any documents or studies created from January 1, 2013 to the present, on the Standalone Services and Bundled Services that mover new connects and non-mover new connects chose when initiating service.**

RESPONSE:

As discussed with FCC staff, Comcast [[
]]. Comcast refers
to its response to Request 4(d), which provides the number of new connecting
subscribers, separately for primary and bulk subscribers, by zip code from 2011 through
June 2014. [[
]] Data and documents
responsive to this Request have been produced to the FCC as Exhibits 126.1 through
126.8.

- 127. For each zip code identified in response to Specification 2(e) of the Information and Data Request issued to the Company on August 21, 2014, and for the Company as a whole, for residential Internet Access Service subscribers, for each month from January, 2012, through December, 2014, state and produce in CSV or Excel format:**
- a. the number of residential Internet Access Service subscribers;**
 - b. the average data usage per Internet Access Service subscriber in gigabytes;**
 - c. the following percentiles of data usage per Internet Access Service subscriber in gigabytes: 10th, 25th, 50th, 75th, 90th, 95th and 99th.**

RESPONSE:

127(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 127.1. Exhibit 127.1 provides the total number of Comcast residential Internet access subscribers by zip code from January 2012 to December 2014. The data are provided separately for primary subscribers and for bulk subscribers.

127(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 127.2. Exhibit 127.2 provides the average amount of data used (in gigabytes) by Comcast residential Internet subscribers, by zip code, for each month from January 2012 to December 2014. The data on usage is periodically pulled from customer devices. Comcast [[

]]. Blank entries in a given month indicate that there was no high-speed data usage measurement in that zip code for that month. In many of these zip codes, there are a de minimis number of Internet subscribers.

127(c):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 127.3. Exhibit 127.3 provides the amount of data used (in gigabytes) at the 10th, 25th, 50th, 75th, 90th, 95th, and 99th percentiles of usage, by zip code, for each month from January 2012 to December 2014. Comcast [[

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]]. Blank entries in a given month indicate that there was no high-speed data usage measurement in that zip code for that month. In many of these zip codes, there are a de minimis number of Internet subscribers.

129. a. Provide a complete description of all services that were included in the Company’s response to the “Average Recurring Service Plan Revenue” field in the “Service Plan” table, submitted in response to the August 21, 2014 Information and Data Request.
- b. Provide an amendment to the Company’s previous “Service Plan” table response so that this table includes the data requested by the following three additional categories:
- i. further disaggregation of each ARSPR field into amounts billed for each such service identified in the ARSPR description provided in response to this Specification;
 - ii. the number of subscribers on each Service Plan that subscribe to each such service using the same subscriber tenure categories; and
 - iii. for each Service Plan, in each month and zip code, a field that calculates the average promotional discount credit from the Service Plan’s rate card price for subscribers in each tenure category. The data table response to this Specification need only include the date, zip_code, plan_name and the data requested by the additional requested fields.

RESPONSE:

129(a):

Comcast incorporates its response to Request 4(c), which provides a description of the monthly recurring charge (“MRC”) data that were provided to the FCC in its response to Request 89.³⁹ Comcast further provides that the recurring service and equipment charges reflected in the MRC data will include, for instance, [[

]].

129(b)(i):

As discussed with the FCC, [[

³⁹

[[

]]

]].

129(b)(ii):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibits 129.1 through 129.13. Exhibits 129.1 through 129.13 provide, by zip code, for each month from June 2013 through June 2014, the number of subscribers to each Comcast Service Plan broken down into the following categories based on the customer’s tenure on that plan: 1 month, 1 to 12 months, 12 to 24 months, and more than 24 months. Exhibits 129.1 through 129.13 also identify subscribers to the following Service Plan add-ons: HBO, Cinemax, Showtime, Starz, TMC, International, Sports, and Other. “Other” includes the Family Tier, Disney family movies, and Bollywood hits.

[[

]]

129(b)(iii):

As discussed with the FCC, Comcast [[

]].

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- 130. For each zip code identified in response to Specification 2(e) of the Information and Data Request issued to the Company on August 21, 2014, from January 1, 2013, to December 31, 2014, provide the amount subscribers received as non-recurring incentives, including but not limited to gift cards, rebates or installation discounts, to either renew a subscription to the Company’s Cables Services or first subscribe to the Company’s Cable Services.**

RESPONSE:

Information and data responsive to this Request are provided in Exhibit 130. Exhibit 130 provides the amount spent on “value add” programs for residential subscribers, which includes gift card rebates and other one-time incentives offered to potential customers, by month from January 2013 through December 2014 for Comcast as a whole. [[
]].

Therefore, data on non-recurring incentives is not available at a zip code level.

- 131. For each zip code identified in response to Request 2(e) of the Information and Data Request issued to the Company on August 21, 2014, provide: (a) the beginning and end date for when usage based pricing was effective; (b) the rules describing the usage based pricing plan (maximum usage allowance, fee for usage over the allowed amount, etc.) (c) the percentage of the Company’s Internet Access Service subscribers that were subject to usage based pricing; (d) the revenues that the Company received from subscribers that exceeded their data usage allowance in the month; (e) the number of subscribers that exceeded their data usage allowance in the month, and (f) the average and median number of gigbytes that users exceeding their data usage allowance.**

RESPONSE:

Information and data responsive to this Request are provided in machine-readable Excel spreadsheet format as Exhibit 131. Exhibit 131 provides a list of zip codes and the name of the market corresponding to the zip code; amounts billed to customers by zip code; and the number of subscribers who exceeded a usage threshold and the average and median amount of usage in gigabytes for those customers who exceeded their data usage threshold.

Exhibit 131 [[
]] (*see* Response to Request 59). Exhibit 131 also excludes customers that have any courtesy products.

131(a)-(c):

The beginning date for when usage-based pricing was effective in each market is generally the first month for which data on the number of subscribers and the average amount by which customers exceeded the threshold appears. Nevertheless, some zip codes may have had none or very few Comcast Internet access subscribers at the time the trial began, causing no usage data to be recorded even though those zip codes fell within areas where usage-based pricing was in effect. The following table lists, by market, the month in which a usage-based pricing trial began: [[

]]

All of the usage-based pricing trials Comcast has implemented are currently ongoing as of the date of this response.

In response to subpart (b) of this Request, Comcast refers to its response to Request 59, which describes the usage-based pricing policies in place in the various trial markets. As described above, Exhibit 131 identifies the zip codes corresponding to the usage based pricing trial markets described in the response to Request 59.

The data provided in Exhibit 131 only contain zip codes that fall within a usage-based pricing trial market. Therefore, in response to subpart (c) of this Request, Comcast states that 100% of the Internet Access Service customers in each of the zip codes identified in Exhibit 131 were subject to usage-based pricing as of the time each trial was initiated; Internet Access Service customers in all other zip codes provided in Exhibit 2(e) were not subject to usage-based pricing.

131(d):

Exhibit 131 provides, by zip code, the aggregate amount that was billed to Comcast's Internet Access Service subscribers for data usage beyond the applicable usage-based pricing threshold. In each usage-based pricing trial market, Comcast's policy includes a grace period during which customers who exceed the applicable usage threshold receive a credit against the billed excess usage. Exhibit 131 excludes amounts billed to customers that were subsequently credited to the customers' account during this grace period. Because Exhibit 131 provides amounts billed rather than amounts received by Comcast, it is possible that amounts actually paid by customers vary from the data provided in Exhibit 131.

131(e)-(f):

Exhibit 131 also provides, for each zip code, the number of customers who exceeded the usage-based pricing threshold that was in place during a given month and the average and median amount of data (in gigabytes) used by those customers. For all of the trial markets except for Tucson, the applicable usage-based pricing threshold has been 300 gigabytes for all customers since the trials began.

As described in Comcast's response to Request 59, the Tucson trial includes different usage allotments for different tiers of Internet service. Comcast [[

]].

In preparing this response, Comcast has attempted to identify the Internet usage allotment applicable in each month for each Tucson customer in calculating the average and median amount of gigabytes used in excess of the allotment. The data provided for Tucson zip codes show the number of customers who exceeded their allotment (based on the Internet tier to which they subscribed that month) and the average and median amount of data used for those customers. Because the billing and usage data come from separate sources from the data identifying the applicable Internet tier a customer subscribed to, the data for Tucson zip codes may exhibit a higher margin of error.

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- 132. For the period beginning January 1, 2013, and ending December 31, 2014, provide Nielsen Npower 3-day programming ratings, or similar data containing the ratings by MVPD services provider for Video Programming aired in broadcast primetime for: (a) live viewing; (b) VOD C3 viewing; and (c) DVR C3 viewing.**

RESPONSE:

Information and data responsive to this Request have been provided in machine-readable Excel spreadsheet format as Exhibit 132. This exhibit includes ratings and impressions data for all advertiser-supported national cable and broadcast networks that Nielsen measures by MVPD services provider. The data are broken out by each of the ten MVPD services providers that Nielsen tracks individually; Nielsen also provides average data for all other MVPDs, which are included herein. With respect to VOD C3 viewing, Nielsen first began including this measurement in May 2014, and many more networks have been included in this measurement in recent months.