UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

UNITED STATES OF AMERICA *Plaintiff*, v. AT&T INC., DIRECTV GROUP HOLDINGS, LLC, and TIME WARNER INC., *Defendants.*	Case. No. 1:17-cv-02511 (RJL)

REBUTTAL REPORT OF CARL SHAPIRO

26 February 2018

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1. Assignment

In this report, I respond to the expert reports submitted by AT&T and Time Warner, especially the report submitted by Professor Dennis Carlton ("Carlton Report"). I also update my analysis based on newly available information.

Appendix A contains an updated list of the matters in which I have testified during the past four years. Appendix B contains a list of the materials upon which I have relied in preparing this rebuttal report.

2. Summary of Opinions

The primary conclusions that I reach in this rebuttal report, above and beyond those presented in my initial report ("Shapiro Report"), are as follows:

- While I agree with Professor Carlton that vertical mergers in general can generate pro-competitive efficiencies, each vertical merger must be evaluated on its own terms. I have applied the consumer welfare standard to the proposed merger between AT&T and Time Warner, and I have concluded that it is likely to harm consumers and diminish competition among video content distributors. I find that the merger is likely to cause substantial aggregate harm to consumers, even though these harms are a small fraction of what consumers pay for their MVPD subscriptions. See Sections 3 and 5 below.

- Professor Carlton states that the bargaining theory upon which I rely for my analysis of the effects of the proposed merger on the Turner affiliate fees is fragile and inconsistent with marketplace evidence. I explain why the use of bargaining theory in this case is well supported and consistent with the evidence. See Section 4 below.

- Professor Carlton offers various metrics to support his assertions that the Turner Content is not especially important to video content distributors and that they can easily replace the Turner Content with other video content. I explain why his metrics are uninformative or misleading for the purpose at hand, which is to estimate the likely effects of the proposed merger on the Turner affiliate fees. I further explain why the Turner Subscriber Loss Rate is the proper metric to use for that purpose, and I show that Professor Carlton has under-estimated this key parameter. See Section 6 below.

- Professor Carlton emphasizes that the video industry is changing, and he argues that these changes should reduce any concerns regarding the proposed merger. I agree that the industry is changing in important ways, but I do not believe that those changes, taken as a whole, diminish the concerns that I have identified with the proposed merger. Accounting for industry trends, I find that the merger is likely to cause substantial harm to consumers in the projected 2021 market configuration. See Section 7 below.

- Professor Carlton asserts that the evidence from prior vertical integration and disintegration events in this industry refutes the theory of harm that I have used in this

case. I do not believe that Professor Carlton's conclusions on this issue are justified, given the historical data we have relating to these prior events. See Section 8 below.

- Professor Carlton downplays the role of HBO as a promotional tool by which MVPDs compete to attract and retain subscribers. His opinion on this point has little evidentiary support, while the contrary view is well supported in the record. See Section 9 below.

- Professor Carlton asserts that coordination between the post-merger AT&T and Comcast would be difficult, largely because these two companies differ in important respects. I agree that AT&T and Comcast differ in important respects, but these differences are perfectly consistent with their having a common interest in withholding their content from rival Virtual MVPDs to slow down the growth of these emerging rivals and thus protect the profits earned by DTV and Comcast. See Section 10 below.

- Professor Carlton highlights various efficiencies that AT&T hopes to achieve as a result of the proposed merger. However, he does not show that these claimed efficiencies are cognizable, as that term is used in the Horizontal Merger Guidelines. Relying on the conclusions reached by Mr. Ronald Quintero and Professor Susan Athey, I do not credit these efficiencies in my analysis. See Section 11 below.

- Professor Carlton asserts that AT&T's post-merger commitment to engage in arbitration in certain situations would eliminate the harm that I have identified based on Turner charging higher fees to DTV's rivals. I disagree. That commitment would not alter the fact that the post-merger AT&T will have an incentive to raise its rivals' costs by charging more for the Turner Content. That basic incentive would affect the offers that Turner would submit during arbitration, a factor that Professor Carlton does not address. The use of arbitration would also distort the market in other ways. See Section 12 below.

- I have updated my calculation of the merger's effects on Turner programming fees from 2016 to 2017 based on additional information that has become available to me. Using updated information, I estimate that, after accounting for the elimination of double marginalization ("EDM"), in the 2017 market configuration, the merger would lead to an annual increase in MVPD costs of about $361 million. Applying the merger simulation model from the Shapiro Report, I find that due to pass-through by multichannel video programming distributors ("MVPDs"), annual consumer costs in the 2017 market configuration would go up by about $436 million. See Section 13 below.

3. Overall Approach to Vertical Mergers

Here I identify two important respects in which Professor Carlton and I agree about how to properly analyze the proposed merger between AT&T and Time Warner.

3.1 *The Need for a Detailed, Fact-Intensive Inquiry*

Professor Carlton opens his analysis by arguing that "unlike horizontal mergers, vertical mergers are generally pro-competitive."[1] He states that "there is no basis for any presumption that vertical mergers will reduce competition."[2]

I agree that, viewed as broad categories, horizontal mergers are generally of greater concern than vertical mergers with regard to possible harm to competition. However, whether horizontal or vertical, each merger that raises serious concerns regarding possible harm to competition must be evaluated on its own terms, in a fact-intensive inquiry. While antitrust economists have more experience studying horizontal mergers in depth, we have developed economic models and considerable experience over the years studying vertical mergers as well. Over the past 30 years, the economics literature has made significant progress in identifying the economic circumstances that make vertical mergers more or less likely to harm consumers.[3] Over the past 25 years, the US Department of Justice ("DOJ") and Federal Trade Commission have challenged roughly 50 vertical mergers.[4]

Based on the economics literature and practical experience, it is well understood among antitrust economists that sound antitrust analysis of a vertical merger requires a nuanced, fact-driven approach that weighs the benefits to consumers against the harms.[5] Some of this literature addresses vertical mergers between video programmers and video distributors in the United States.[6] In evaluating the AT&T/Time Warner transaction, I have deliberately chosen to use an

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1 Expert Report of Professor Dennis W. Carlton, Feb. 2, 2018, at ¶¶9–14. Hereinafter referred to as "Carlton Report".

2 Carlton Report, at ¶10.

3 *See* Janusz A. Ordover, Garth Saloner, and Steven C. Salop, "Equilibrium Vertical Foreclosure," *American Economic* Review, 1990; *See also* Patrick Bolton and Michael D. Whinston, "The 'Foreclosure' Effects of Vertical Mergers," *Journal of Institutional and Theoretical Economics*, 1991. These papers are early examples of articles showing how vertical mergers can lead to the foreclosure of rivals and harm welfare. *See also* Michael H. Riordan, "Competitive Effects of Vertical Integration," in *Handbook of Antitrust Economics*, Paolo Buccirossi ed., 145-182 (Cambridge, MA: MIT, 2008) for a more recent overview.

4 Steven C. Salop and Daniel P. Culley, "Vertical Merger Enforcement Actions: 1994-2016," Georgetown University Law Center, 2017 (identifying 52 vertical enforcement actions by the DOJ and the Federal Trade Commission from 1994 through 2016).

5 *See* Michael H. Riordan and Steven C. Salop, "Evaluating Vertical Mergers: A Post-Chicago Approach," *Antitrust Law Journal*, 1995; *See also* Steven C. Salop and Daniel P. Culley, "Revising the US Vertical Merger Guidelines: Policy Issues and an Interim Guide for Practitioners," *Journal of Antitrust Enforcement*, 2015, which provides examples of theories of harm that have been pursued in vertical merger investigations undertaken by the DOJ and the FTC since 1994.

6 *See* David Waterman and Andrew A. Weiss, "The Effects of Vertical Integration Between Cable Television Systems and Pay Cable Networks," *Journal of Econometrics*, 1996; *see also* Tasneem Chipty, "Vertical Integration, Market Foreclosure, and Consumer Welfare in the Cable Television Industry," *American Economic Review*, 2001; *see also* Gregory S. Crawford, Robin S. Lee, Michael D. Whinston, and Ali Yurukoglu, "The Welfare Effects of Vertical Integration in Multichannel Television Markets," *Econometrica*, forthcoming. These papers find evidence consistent with both foreclosure of rivals and economic efficiencies due to integration.

economic model that balances consumer harms and consumer benefits, as I apply the consumer welfare standard.

Vertical merger analysis is similar to horizontal merger analysis in that both require a balancing of consumer harms and benefits. However, there is one big difference: one of the key pieces of evidence upon which we rely quite heavily when studying a horizontal merger—the change of concentration in the relevant market—is not at all informative when studying a vertical merger, for the simple reason that a purely vertical merger does not directly cause any change in market concentration at either level. I agree with Professor Carlton that there is no analog in vertical mergers to the structural presumption that applies to horizontal mergers.

Professor Carlton comes close to dismissing the competitive concerns associated with this merger without the need for a detailed, fact-specific inquiry. In Section II.D of his report, "A Framework for the Economic Analysis of this Vertical Merger," he states that "the Plaintiff's theory is that Turner has been unable to make full use of its market power pre-merger."[7] He appears to be suggesting that the basic theory of harm in this case is flawed because it assumes that Turner has not been fully exploiting its market power prior to the merger. That is incorrect. As is well understood in the literature on vertical mergers, a vertical merger changes the profit-maximizing incentives of the entity controlling the upstream input. Here, the post-merger AT&T will set higher fees for Turner Content than Turner did previously because AT&T will be seeking to maximize the joint profits of Turner and DTV, while Turner was seeking to maximize the profits of Turner alone. As a result, AT&T's profit-maximizing price for the Turner Content is higher than Turner's profit-maximizing price for the Turner Content. Contrary to Professor Carlton's suggestions, the basic theory of harm here does not assume that Turner has been leaving money on the table.

3.2 *Use of the Consumer Welfare Standard*

My analysis seeks to determine whether competition and consumers are likely to be harmed by the merger. I also seek to quantify that harm as regards the fees MVPDs paid for the Turner Content, to the extent possible, given the inevitable uncertainties regarding the competitive effects of a proposed merger.

Professor Carlton states in his report that "it is important not to confuse an impact on competitors with actual harm to competition and consumers."[8] I agree. If a merger causes rivals' costs to rise, if those higher costs lead to higher prices charged to consumers, and if the net result is overall consumer harm, after accounting for any qualifying merger efficiencies, then that merger is properly considered to be anti-competitive under the consumer welfare standard.

4. Using a Bargaining Model to Analyze Competitive Effects

Professor Carlton states: "THE CLAIM THAT AT&T WILL BE ABLE TO EXTRACT HIGHER PRICES FOR TURNER CONTENT AFTER THE MERGER DUE TO INCREASED

[7] Carlton Report, at ¶25.

[8] Carlton Report, at ¶34.

BARGAINING LEVERAGE APPEARS TO BE BASED ON A FRAGILE THEORY THAT IS INCONSISTENT WITH MARKETPLACE EVIDENCE."[9] I strongly disagree. In my view, the economic theory of bargaining that underlies my modeling of the likely effects of the proposed merger between AT&T and Time Warner is robust and consistent with the evidence.

The economics literature dating back at least 30 years has modeled bargaining interactions between firms.[10] That literature finds that the prices resulting from bargaining between firms are determined in significant part by those firms' payoffs in the event that no agreement is reached between the negotiating parties. Theoretical models of bargaining between firms are now standard in economic literature.[11] The model that I am using to assess the relative benefits and harms of the proposed merger between AT&T and Time Warner merger is drawn from this literature.[12]

In practice, prices in many industries are determined by bargaining between sellers and buyers. Many of these industries involve producers that create goods or services that they sell to distributors, which in turn package and sell those goods or services to end consumers. For example, in the healthcare industry, hospitals and physician providers bargain over fees with insurance companies, which then provide insurance coverage to employers and to individual consumers. In the video programming distribution industry, as I explained in the Shapiro Report, video content aggregators bargain with video content distributors, including MVPDs.

My analysis of competitive effects based on a bargaining model is further supported by the evidence produced in this specific matter.[13] More specifically, a 2013 DTV strategy document recognizes that owning programming content would affect DTV's negotiations with rivals by increasing DTV's bargaining leverage due to its ability to capture subscribers from rivals in the

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9 Carlton Report, at §IX.

10 Henrik Horn and Asher Wolinsky, "Bilateral Monopolies and Incentives for Merger," *RAND Journal of Economics*, 1988. This article models the interaction between an upstream supplier and multiple downstream distributors. This model of bargaining builds upon the seminal work of Nobel Laureate John Nash. *See* also John Nash, "The Bargaining Problem," *Econometrica*, 1950.

11 For examples of research involving programmer-MVPD negotiations, *see* Gregory S. Crawford and Ali Yurukoglu, "The Welfare Effects of Bundling in Multichannel Television Markets," *American Economic Review*, 2012; *see also* Gregory S. Crawford, Robin S. Lee, Michael D. Whinston, and Ali Yurukoglu, "The Welfare Effects of Vertical Integration in Multichannel Television Markets," *Econometrica*, forthcoming. For examples of the use of bargaining models in the health care sector, *see* Matthew Grennan, "Price Discrimination and Bargaining: Empirical Evidence from Medical Devices," *American Economic Review*, 2013, which deals with negotiations between hospitals and stent manufacturers; *see also* Gautam Gowrisankaran, Aviv Nevo, and Robert Town, "Mergers When Prices Are Negotiated: Evidence from the Hospital Industry," *American Economic Review*, 2015; *see also* Kate Ho and Robin S. Lee, "Insurer Competition in Health Care Markets," *Econometrica*, 2017. Both of these articles deal with negotiations between hospitals and health insurance plans.

12 Expert Report of Professor Carl Shapiro, Feb. 2, 2018, at §7.3. Hereinafter referred to as "Shapiro Report."

13 *See* Shapiro Report, at n.179–180; *see also* ATT-LIT-04397170-174, at -172 (stating that one of the "logic paths for vertical integration" is "shape the ecosystem" and "purchase content player to reinforce pay TV bundle. . . . An acquisition will stop other content players from degrading the bundle").

event they lose access to certain content.[14] In another internal document, AT&T, as part of its analysis of the impact of the Comcast-NBCUniversal consent decree expiration, recognized that after the consent decree expires, Comcast will have greater ability to raise prices or withhold NBCUniversal content from MVPDs and online video distributors ("OVDs") and that AT&T's content costs could thus increase further.[15]

Furthermore, a very similar bargaining theory to the one I use here was employed by the DOJ and the Federal Communications Commission (FCC) to analyze the Comcast/NBCUniversal merger. Professor Carlton is aware of this, writing: "Notably, one of the theories of harm evaluated in the Comcast-NBCU merger—higher prices due to an increase in bargaining leverage—was quite similar to Plaintiff's theory of harm here . . . ." [16] In that case, Professor Kevin Murphy, who was retained by DTV, advanced a very similar bargaining model that predicted the impact of the Comcast-NBCUniversal merger on programming fees earned by NBC.[17] So far as I can determine, Professor Murphy did not consider his predictions "fragile" or "inconsistent with marketplace evidence," and DTV put Professor Murphy's forecasts forward to the FCC as reliable.

5. Turner Fee Increases and Downstream Competition

In this section, I address two issues raised by Professor Carlton that appear to be important to his view that the merger between AT&T and Time Warner would not substantially lessen competition in the multichannel video distribution market.

5.1 *Turner Fees Comprise a Small Fraction of MVPD Subscription Fees*

Professor Carlton states:[18]

> Any prediction about potential harm to competition in video distribution should take account of the magnitude of the forecast price increase for Turner content relative to the downstream prices. When an input's price is small relative to the downstream price, it is

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[14] *See* ATT-DOJ2R-03159246-259, at -258 (By acquiring content producer or programmer, "Take greater advantage of competitors' carriage disputes by prolonging negotiations when beneficial: Increase DIRECTV-owned networks' leverage in negotiations, Convert competitors' subscribers").

[15] *See* ATT-DOJ2R-07995759-767, at -764.

[16] Carlton Report, at ¶89. The theory was also advanced in the News Corp./Hughes merger. *See* Michael H. Riordan, "Competitive Effects of Vertical Integration," in *Handbook of Antitrust Economics*, Paolo Buccirossi ed., 145-182 (Cambridge, MA: MIT, 2008); *see also* Jonathan B. Baker, "Comcast/NBCU: The FCC Provides a Roadmap for Vertical Merger Analysis," *Antitrust*, 2011, for descriptions of the bargaining analysis in News Corp./Hughes and Comcast/NBCUniversal, respectively.

[17] Report submitted on behalf of DIRECTV by Kevin M. Murphy, "Economic Analysis of The Impact of the Proposed Comcast/NBCU Transaction on the cost to MVPDs of Obtaining Access To NBCU Programming", Jun. 21, 2010, at ¶14 ("These observations lead me to use an economic model of bargaining to help interpret current economic outcomes in this market with respect to retransmission, and what they imply for how the proposed transaction might affect the fees that MVPDs pay for the right to carry NBC stations").

[18] *See* Carlton Report, at ¶134.

> hard to see how even a large percentage increase in the price of the input would cause substantial harm to competition downstream. For example, if the price of a final product is $100 and the price of some input rises by $0.50, even with full pass through, it is hard to conclude that such a small price increase will lead to a substantial lessening of competition in the downstream product market.

In the Shapiro Report, I estimate that the merger will cause households to pay an additional $23.9 million per month for their MVPD subscriptions, or over $286 million per year, in the 2016 market configuration.[19] In Section 13 below, I update my estimates using 2017 data. The updated data suggest that the merger will cause households to pay $436 million per year in the 2017 market configuration. As a percentage of total multichannel revenue, which is roughly $116 billion,[20] the annual harm I calculate is 0.6% before accounting for EDM and 0.4% after accounting for EDM. Since 0.4% is a very small percentage, Professor Carlton apparently believes that this finding, even if accepted, would not imply that the merger will substantially lessen competition. I disagree. Under the consumer welfare standard, the merger would cause substantial harm to consumers—over $400 million per year in the 2017 market configuration—and thus is properly seen as anti-competitive.

Under Professor Carlton's approach, as I understand it, the merger would not be seen as anti-competitive, because the percentage increase in the price for MVPD subscriptions is small. I disagree with that approach. Under that approach, any vertical merger involving an input whose cost accounts for a small share of the downstream product's price would not be found to substantially lessen competition in the downstream product market. Vertical mergers that cause substantial harm to consumers would be permitted under that approach. That approach appears to me inconsistent with the application of the consumer welfare standard.

Closely related, Professor Carlton states:[21]

> It is also possible that even if Turner prices do increase, any resulting increased price in video distribution is so trivial that it does not amount to a substantial lessening of competition and that such a trivial "harm" can easily be offset by efficiencies.

While the harm to consumers might indeed be "trivial" in some other case, however Professor Carlton defines that term, I do not see how the consumer harm of over $400 million per year that I find in this case could be considered "trivial." Furthermore, while cognizable efficiencies might indeed offset the harm in some other case, if passed through to consumers, the $436 million per year consumer harm figure that I derive in this report accounts for the EDM, and the other efficiencies associated with the current transaction identified by AT&T do not appear to be merger specific or verifiable.

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[19] Shapiro Report, at 67. This corresponds to an increase of about 5% in the average cost of the Turner Content to all MVPD and Virtual MVPDs.

[20] Ian Olgeirson (2017), "Multichannel Video Revenue Sets Course for Slide in 10-Year Outlook," *S&P Global*, Dec. 12, https://www.snl.com/web/client?auth=inherit#news/article?id=42903087.

[21] *See* Carlton Report, at ¶133.

5.2 *Pass-Through of Higher Turner Fees to Final Consumers*

Making a separate point, Professor Carlton states, "Even if there were a significant increase in the price of Turner content, whether video distributors would pass through that increase to their customers cannot be assumed, particularly if Plaintiff were correct that passing through such a price increase would result in substantial losses of subscribers."[22]

The Shapiro Report discussed pass-through in some detail. One reason I find considerable net harm to consumers is that the historical pass-through rate of programming costs to MVPD prices is relatively high. Using a high pass-through rate in this case is supported by ordinary-course documents and economic theory. The Shapiro Report discusses this evidence and how one applies pass-through rates to estimate consumer harm.[23] Furthermore, in the Shapiro Report, I used a calibrated merger simulation model to predict pass-through rates associated with the highly asymmetric cost changes that would result from the merger, namely a cost decrease for DTV combined with a cost increase for DTV's rivals.

6. The Commercial Significance of the Turner Content

One of Professor Carlton's central themes is that there are many sources of video content, so AT&T's control over the Turner Content cannot significantly harm competition downstream among video content distributors. He offers various measures of Turner's significance within what he calls the "video content market." For example, he states at ¶53:

> Plaintiff's theory of harm is based on a claim that a programmer that accounts for only about 6.4% of television video content consumption can be used to substantially harm competition in video distribution markets.

He further states at ¶55:

> Unless a firm controls a substantial share of the capacity for producing video content (or of the existing stock of relevant content), any attempt to limit access to content in an attempt to harm competition in distribution markets is likely to cause distributors to turn to other content producers.

After presenting various other measures, Professor Carlton summarizes in ¶65:

> Overall, then, it is not clear exactly what content Plaintiff can or will point to in support of its claims that Turner content will give AT&T the ability to use that content to substantially lessen competition in video distribution.

In my view, much if not all of what Professor Carlton has to say about what he calls the "video content market" is either uninformative or misleading for the purposes of evaluating how the merger will affect the bargaining between Turner and MVPDs that compete against DTV.

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[22] *See* Carlton Report, at ¶139.

[23] See Shapiro Report, at §12.

The Turner Subscriber Loss Rate is the best measure of the significance of the Turner Content, when Turner is negotiating with an MVPD. The metrics that Professor Carlton puts forward are not informative for that purpose, and Professor Carlton offers no reason why they would be. To the contrary, by looking at a very broad category of video content, within which Turner's share looks small, he has constructed a measure that misleadingly suggests that Turner Content is not important to MVPDs. We know that is not the case, based on evidence about the Turner Subscriber Loss Rate and based on evidence about the affiliate fees that Turner is able to obtain from MVPDs.

Because the "video content market" used by Professor Carlton to measure shares is not a properly defined relevant antitrust market, shares measured in that "market" can easily be not only uninformative but downright misleading. Let me illustrate how this can occur, with reference to a different but related market: the market for the licensing of recorded music to interactive music services such as Spotify.[24] Spotify is a music service that allows users to pick from an enormous range of recorded music and play the songs they want on demand. Suppose that Spotify needs to have access to the repertoires of all three major record companies, Universal, Sony, and Warner, in order to have a viable music service. Under these circumstances, the collections of recorded music offered by these three companies are not substitutes for Spotify; they are complements. Under these circumstances, each of the three major content providers has monopoly power over Spotify and other interactive services. The Copyright Royalty Board found in the Web IV proceeding that the three major record companies were "complementary oligopolists" in the market for interactive music services such as Spotify.[25]

How should one interpret the "play shares" of the major record companies in that setting? Suppose for illustrative purposes that Warner's share of the music played on Spotify was 15%. As noted above, the correct economic conclusion is that Warner had monopoly power in the licensing of music to Spotify and the other interactive services. Under Professor Carlton's approach, however, Warner's music would be seen to be relatively unimportant, since Warner provides "only" 15% of the music played on Spotify. This would be an error. What matters for the economic analysis (and real-world business decisions) is not Warner's share of all the music played by listeners, but rather how damaging the loss of Warner music would be to Spotify. The same is true of the Turner Content. What matters for the economic analysis (and real-world business decisions) is not Turner's share of all the video content viewed by households, but rather how damaging the loss of the Turner Content would be to an MVPD.

There is another fundamental reason why the viewership shares reported by Professor Carlton are uninformative and misleading for the case at hand. Professor Carlton states at ¶52: "Turner

[24] This market was studied extensively by the Copyright Royalty Judges during the Web IV proceeding. *See* United States Copyright Royalty Judges, "In re: Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings (Web IV)," *Federal Register*, Vol. 81, No. 84, May 2, 2016, at 26316–26410. I testified on behalf of Pandora Media in that proceeding.

[25] The Copyright Royalty Judges refer repeatedly to this complementary oligopoly. For example, they state: "The Judges were presented with substantial, unrebutted evidence that the interactive services market is not effectively competitive." See Id. at 26344.

networks together now account for only about 6.4% of basic cable, broadcast and OVD viewership."[26] He appears to be suggesting that lack of access to the Turner Content cannot make much difference to an MVPD, because Turner's "share," as he measures it, is so low. However, we know that about 90% of MVPD households have access to the Turner Content.[27] This is not a situation in which only 6.4% of the customers pay for access to the Turner Content, as might be indicated by a 6.4% market share in other markets. Here, more than 90% of subscribers pay for access to the Turner Content. If one is going to use shares, as Professor Carlton does, why not use the 90% figure rather than the 6.4% figure? In the Spotify example, all or nearly all the subscribers to interactive services pay for access to the Warner music, and that figure does a much better job of measuring Warner's monopoly power than does Warner's 15% share of the music played by these subscribers. In the current case, the very large gap between the 90% figure and the 6.4% figure reflects the fact that consumers are purchasing large bundles of video content because they value variety and the option to select from a wide range of programming.

In summary, I strongly disagree with the conclusions that Professor Carlton draws from the various metrics he offers showing that Turner's "share" is small in his "video content market."

By far the best metric by which to assess the commercial significance of the Turner Content in this case is the Turner Subscriber Loss Rate This metric governs the fees that Time Warner can obtain from MVPDs for the Turner Content. Those fees themselves are also a useful metric, especially for the purpose of comparing the commercial significance of the Turner Content to that of other packages of video programming such as the Viacom Content, and for tracking the Turner Subscriber Loss Rate over time.

6.1 *Turner's Share of Viewership*

Professor Carlton states, "Turner has a limited and declining share in the video content marketplace."[28] To support his proposition that AT&T's control over the Turner Content cannot have a significant impact on downstream competition, Professor Carlton relies on statistics reporting Turner's share of different metrics, such as primetime viewers and top-rated telecasts.[29]

As explained above, in taking this whole approach to assessing the commercial significance of the Turner Content, Professor Carlton ignores some fundamental realities of the television marketplace: video content is highly differentiated, consumers value variety and having access to a wide range of video content on short notice, and each individual consumer is likely to watch a wide variety of different programs in a given month.

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[26] As a separate point, I do not understand why Professor Carlton included OVD viewing in the denominator in this calculation, since the question at hand is how important the Turner Content is to MVPDs. Focusing on MVPD and Virtual MVPD viewing, Turner's share of viewership is larger, as identified by Professor Carlton. But it is still misleadingly small.

[27] *See* Shapiro Report, Figure 19.

[28] *See* Carlton Report, at 32.

[29] *See* Carlton Report, at §III.A and §III.B.

Programming content is an example of what economists call a "horizontally differentiated product." This means that even if prices of programming content were equal, different consumers would have different preferences regarding which content they would prefer to purchase.[30] Without question, networks and television series are differentiated, both by broad genre (some customers prefer dramas while others like comedies) and by specific show (some customers prefer *Game of Thrones*, while others prefer *House of Cards*).

Programming content is also what is known as an "experience good," which refers to goods for which customers cannot fully ascertain the quality until they use, or "experience," them.[31] Even with advance reviews and word-of-mouth recommendations, consumers cannot be sure that they will like a television program until they have watched it. Together, the differentiated and experiential nature of programming and consumers' preference for variety means that consumers typically value purchasing access to a wide range of content, including multiple channels. Having access to a number of networks increases the probability that customers will find something they like to watch at any given time.[32]

These consumer preferences in turn encourage distributors to assemble bundles of channels to appeal to consumers.[33] Indeed, consumers' demand for a variety of content is an important reason why MVPDs and Virtual MVPDs nearly always sell packages that contain multiple channels.[34] Similarly, most subscription video-on-demand services ("SVODs") offer access to many TV shows and movies.

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[30] Jean Tirole, *The Theory of Industrial Organization* (Cambridge, MA: MIT Press, 1988), chapter 2.

[31] *Id.*

[32] This may be particularly true when several people live in the same household, because then having multiple channels increases the probability that all household members find programming they want to watch.

[33] Deposition of Jeffrey Bewkes, May 4, 2017, at 123:6-20 ("You have to think about—so you have a TNT, TBS, Cartoon Network, CNN. That's a few genres. We like those genres. But usually when people think of—maybe if you think of your own house, you're watching those along with four other news channels and eight other equivalents like TNT, USA, FX. And the people who like these sorts of services, CNN, TNT, they also like MSNBC, Fox, and Bloomberg. They also like FX and USA Network. So it's not likely that they're going to pick and want to actually say, 'Yeah, I'm going to subscribe to that and get a subset of the channels in that category and not get the most of the equivalent ones.'"), *Id.* at 130:18-131:22 (When asked whether Turner or other networks would consider selling themselves directly to consumers outside these channel packages, Time Warner CEO Jeffrey Bewkes said he did not think "that could or would happen . . . because it doesn't fit what consumers want."), *Id.* at 135:1-18 ("Q. Okay. So why isn't the natural end state one in which every channel is its own service? A. I think it's too hard for consumers. They do want more choice and we've been working hard to give it to them . . . If you say, well, then keep going into hundreds of individuals choice, it's just too hard for consumers. It's too difficult. I don't think we've seen consumer demand for that.").; *see also* Deposition of David Levy, Jan. 17, 2018, at 129:24-130:11. ("Like with all of our programming, [sports rights are] part of our overall programming strategy. And having quality premiums sports as well as originals and acquired [content] and everything else helps us have conversations about . . . rate increases with our distributors."); *see also* Deposition of John Martin, Jan. 26, 2018, at 87:4-88:8 (describing Turner's programming strategy as "a portfolio of offerings to consumers").

[34] There are two additional reasons why channels are typically bundled: (1) to reduce consumer disruption, and (2) to allow MVPDs to price discriminate. On the first point, when consumers buy channels in one package from one MVPD, it decreases frictions from having to deal with switching equipment (such as back and forth from an antenna) or with multiple bills. On the second point, *see* Gregory S. Crawford, "The Discriminatory Incentives to

Under these circumstances, Turner's viewership shares, such as those shown in Figure 2 in the Carlton Report, are *not* meaningful or informative measures of the commercial significance of the Turner Content. This is well illustrated by the following example. If viewership shares were indicative of the commercial significance of programming content, then NFL programming, with its 1% share of DTV's viewership, would be relatively unimportant to DTV. Yet DTV spends [redacted] of its programming expenses on NFL content—more than what DTV spends on [redacted] which has a far higher share of DTV viewership.[35]

By citing Turner's viewership shares as evidence regarding the commercial significance of the Turner Content, Professor Carlton appears to be assuming that MVPDs and other video content distributors can easily replace Turner programming with content offered by Disney, FOX, or any other programmer. But such "replacement" only makes sense if MVPDs are not *already* providing their subscribers with access to the Disney or Fox content. As a factual matter, that is not the case, since the leading MVPDs all carry the Disney and Fox content, and much more content, along with the Turner Content. Professor Carlton does not identify content that the leading MVPDs do not currently show that they could and would add to replace the Turner Content if they lost access to the Turner Content. The evidence clearly shows that video content distributors need to offer a wide range of programming to compete effectively.[36] As I discussed in some detail in the Shapiro Report, losing access to the Turner Content would have a material, adverse impact on the attractiveness of the service provided by an MVPD.[37] Virtual MVPDs also value the Turner Content highly.[38]

Bundle in the Cable Television Industry," *Quantitative Marketing and Economics*, 2008; *see also* Gregory S. Crawford and Ali Yurukoglu, "The Welfare Effects of Bundling in Multichannel Television Markets," *American Economic Review*, 2012. These papers document how MVPDs have used bundles to smooth over heterogeneous preferences between consumers and thus increase profits in a manner similar to second-degree (opt-in) price discrimination.

35 ATT-LIT-00761143-212, at -204.

36 ATT-DOJ2R-06226973-7010, at -6983 (August 2016 analysis used by AT&T in their planning for DIRECTV NOW indicates that respondents viewed multiple channels as being "must have"); Deposition of Tom Montemagno, Feb. 6, 2018, at 119:7-17 (stating that Fox News, MSNBC, Fox Business, and CNBC are "to some degree" substitutable with CNN, "[b]ut there is unique things [sic] about the networks and tone and voice and original shows that are not as replaceable"); HULU-0004859-920, at -876 (planning for the most basic Hulu virtual MVPD package to contain at least Turner, Disney, FOX, NBCUniversal, and A&E).

37 Comments of AT&T, In re: Implementation of Section 103 of the STELA Reauthorization Act of 2014, Dec. 1, 2015, at 3, available at https://ecfsapi.fcc.gov/file/60001347944.pdf ("[L]ocal cable providers needed to provide "must-have" network programming to consumers, and local broadcasters could increase their viewership and advertising revenue by carriage through the cable providers' distribution channels."); Comments of AT&T, In re: Amendment of the Commission's Rules Related to Retransmission Consent, June 26, 2014, at 4 available at https://prodnet.www.neca.org/publicationsdocs/wwpdf/0630att.pdf ("[A] local television broadcaster can now whipsaw an MVPD competing against other MVPDs in that local market by threatening to withhold must-have broadcast programming (in addition to cable networks controlled by the broadcaster) made available to the other local MVPDs.")

38 For example, when Google was planning to launch its Virtual MVPD service, YouTube TV, it believed that it needed to offer a minimum threshold of content to launch successfully. *See* GOOG-ATTTW-00000001-064, at -022 (Google intended to sign up [redacted] and it thought it needed to [redacted]. It subsequently found that Turner Content was "table stakes" (i.e., essential) to compete effectively. *See* GOOG-DOJATT-00000020-041, at -029.

Similar reasoning is applicable to sports programming in particular. Any particular consumer is unlikely to find a NASCAR race to be a suitable substitute for an NBA playoff game; nor would many subscribers happily watch a golf tournament if they could not watch March Madness.[39]

Whenever antitrust economists use market shares, it is important to check that the measured shares reasonably relate to the market power or competitive effects at issue. Normally, when a firm has a small market share in a relevant market, this indicates that the firm's customers can easily stop purchasing from that firm with little adverse consequence due to the presence of many other choices. But that is not the case here: there is extensive, direct evidence that losing access to the Turner Content would have a significant adverse effect on an MVPD's subscriber base. This is why Professor Carlton's metrics are uninformative and misleading.

What matters for evaluating the likely effects of the proposed merger is emphatically *not* Turner's share of viewership, as presented in the metrics Professor Carlton uses, but rather, the number of subscribers a distributor would lose if it did not carry Turner Content.[40] That is the metric on which I focus when implementing my bargaining model.

6.2 *The Value of Turner Content Has Been Rising over Time*

Professor Carlton emphasizes that in recent years Netflix, Amazon, and Hulu have attracted many viewers and have been spending impressive amounts to develop their own original content.[41] He cites this evidence in support of his conclusion that there is a "lack of concentration in content provision."[42] He concludes that the Turner Content is becoming less important over time, based in part on Turner's declining share of total viewership or of total expenditures on the creation of video content.

However, as explained above, for present purposes the affiliate fees that Turner is able to obtain are a far more relevant metric of Turner's commercial significance. The level and the changes over time in the per subscriber per month ("PSPM") fees that the Turner Content can command are highly instructive regarding the level and the trend in the Turner Subscriber Loss Rate.

Notwithstanding the growing role of OVDs and the impressive expenditures on video content that Netflix, Amazon, and Hulu have made in recent years, the affiliate fees earned by traditional

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[39] [redacted] *see also* TWI-02069272-279, at -276 ("Premium sports will continue to be unmatched in terms of consumer demand and live viewership, driving on-going value to distributors and advertisers, even as the television landscape evolves.").

[40] Deposition of Vince Torres, Jan. 12, 2018, at 140:14-141:12. ("Q. Is it fair to say that these are the important metrics with respect to programming blackouts? A. There is one critical number, and it is that first bullet, which is the incremental churn. That's—that's what we focus on.").

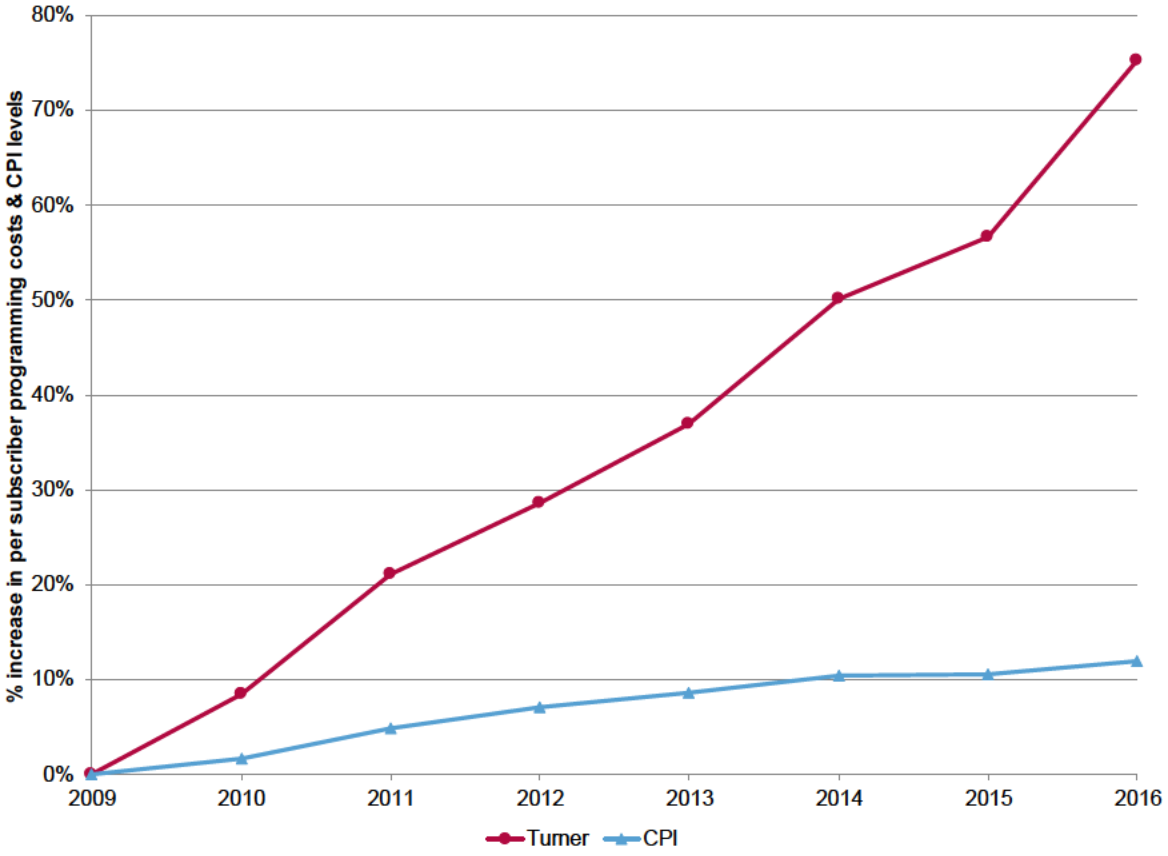
[41] Carlton Report, at ¶¶42-45. He reports at ¶45 that these three firms together spent more than $11 billion on content in 2017.

[42] Carlton Report, at ¶48.

programmers, including Turner, have grown significantly in recent years. In fact, as shown in Figure 1, the PSPM fees for Turner Content have grown far faster than inflation in recent years. This trend also holds at the individual network level.

Figure 2 shows that fees for individual Turner networks (identified by red-shaded columns) have also been rising faster than the fees charged for other leading networks both in general and considering only DTV. This trend can also be seen in Figure 10 and Figure 11 in the Carlton Report. Figure 3, using the data that underlie Professor Carlton's Figure 10, shows that individual Turner networks charge industry-leading PSPM fees. Next to ESPN (not shown in the figure due to scaling issues), Turner's TNT is the highest priced network in 2017. TNT also held that position in 2010. Turner's other major networks, TBS and CNN, are the sixth and eighth highest priced networks, respectively, in 2017.[43]

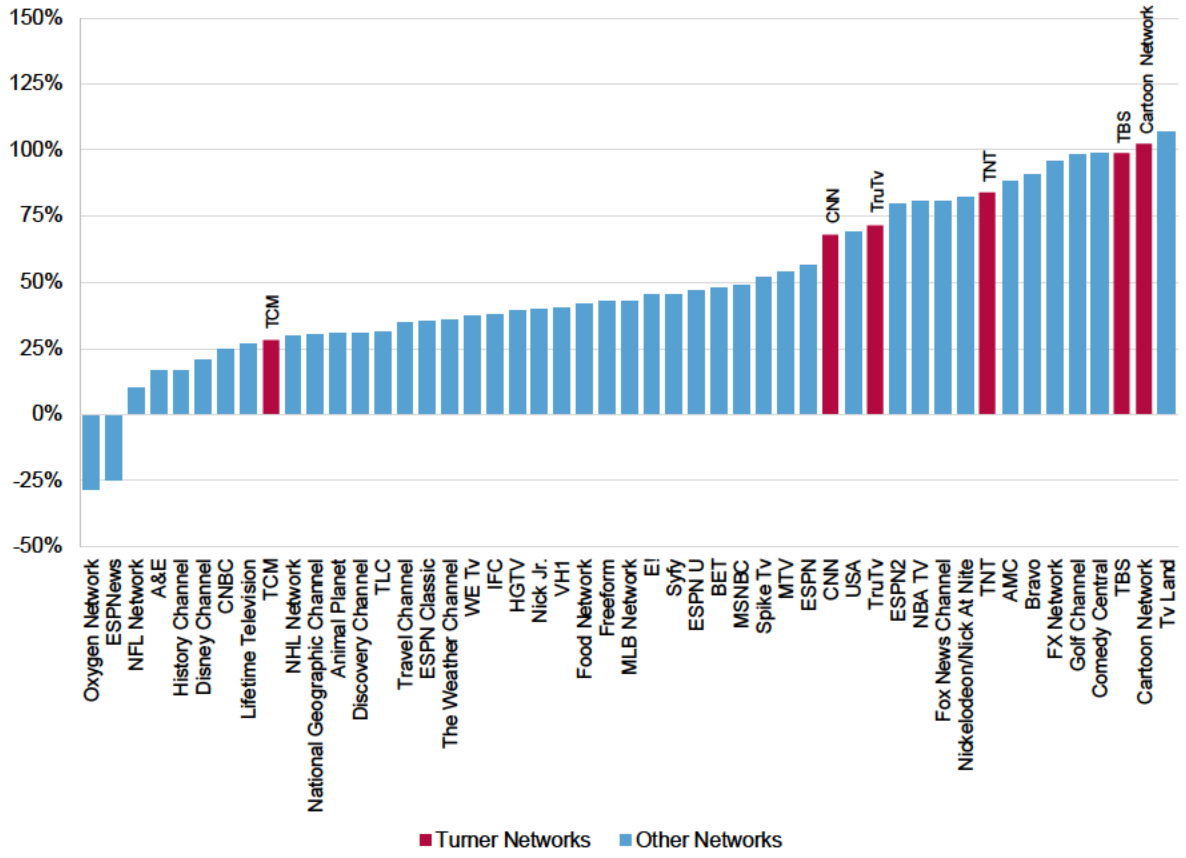
Figure 1. Growth in Turner Programming Fees vs. Growth of the Consumer Price Index: 2009–2016



Source: SNL Kagan "TV Network Summary: Financial and Ratings", Carlton Report Backup.

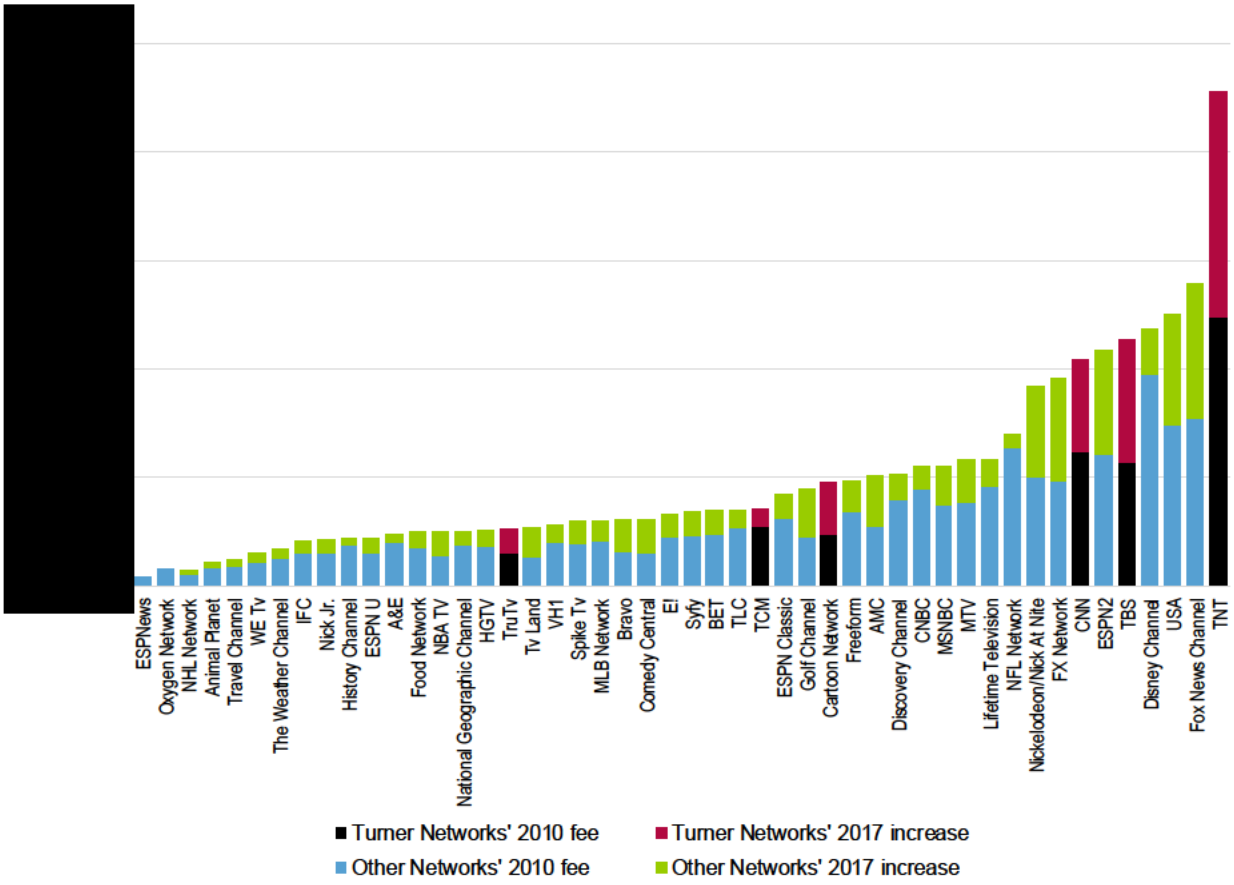
[43] With ESPN excluded, they would be ranked 5th and 7th highest.

Figure 2. Replication of Carlton Report Figure 11:
Percentage Change in Affiliate Fee Between 2010 and 2017 for DIRECTV



Source: DIRECTV: Rates 2010-2017,SNL Kagan "TV Network Summary: Financial and Ratings", Carlton Report Backup.
Note: Includes networks in the top 50 by revenue that Professor Carlton excludes because of vertical integration status or missing ratings.

Figure 3. Year-Over-Year Change in Affiliate Fee Between 2010 and 2017 for DIRECTV (excluding ESPN)



Source: DIRECTV: Rates 2010-2017, SNL Kagan "TV Network Summary: Financial and Ratings", Carlton Report Backup.
Note: Includes networks in the top 50 that Professor Carlton excludes because of vertical integration status or missing ratings. Excludes ESPN due to scaling.

Between 2010 and 2017, the per network PSPM fees DTV paid to the leading Turner networks (those in the top 50 by revenue) grew by an average of [redacted] per year, versus 5.7% per year for other leading networks.[44] The average PSPM fees earned per network by Turner, including those outside the top 50, increased by [redacted] from 2010 to 2017.[45]

6.3 *Evidence from Virtual MVPDs*

I now discuss evidence regarding the importance of the Turner Content to Virtual MVPDs.

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[44] Based on 2017 subscriber-weighted increases for each network (including ESPN). I weight Turner rates using subscriber counts available in DTV data, and other top 50 networks using subscriber counts in the SNL Kagan data that Professor Carlton provided in his backup. Using solely the rates and subscriber counts from SNL Kagan data, the corresponding comparison is 7.0% for top 50 Turner networks and 6.4% for other top 50 networks. Professor Carlton's revenue-based ranking excludes TruTV in this top 50 measure. See Appendix F.

[45] Based on rate and subscriber data from Carlton Report Backup.

6.3.1 The Larger, More Successful Virtual MVPDs Carry Turner Content

The largest and most successful Virtual MVPDs today all carry the Turner Content. These are DISH Sling, DIRECTV NOW, Hulu with Live TV, and Sony's Playstation Vue.[46] Evidence shows that the growth of these Virtual MVPDs has far outstripped that of Virtual MVPDs that do not carry the Turner Content.

Professor Carlton appears to place little weight on this evidence in reaching his conclusion that access to the Turner Content is not especially valuable to Virtual MVPDs. This is a significant omission. Turner was one of Dish's "key launch partners" for Sling.[47] Further, Turner Content is important to Sling. [redacted] Sony's PlayStation Vue also launched with Turner Content, and Sony believes that [redacted] DirecTV Now and Hulu Live TV likewise both carried Turner Content at launch.[51]

[46] Shapiro Report, at §4.3.2, 26 (describing Sling, DIRECTV Now, and Sony Vue as the "three leading Virtual MVPDs"); Luke Bouma (2017), "Philo vs Sling TV vs DIRECTV NOW vs PlayStation Vue vs Fubo TV vs Hulu vs YouTube TV – Updated December 2017," *Cord Cutter News*, Dec. 9, https://www.cordcuttersnews.com/philo-vs-sling-tv-vs-directv-now-vs-playstation-vue-vs-fubo-tv-vs-hulu-vs-youtube-tv-updated-december-2017. (The article shows that Sling, DIRECTV Now, Hulu with Live TV, and Sony Vue all carry the major Turner networks such as CNN, TNT, and TBS).

[47] Deposition of Roger Lynch, Apr. 20, 2017, at 55:25-56:20.

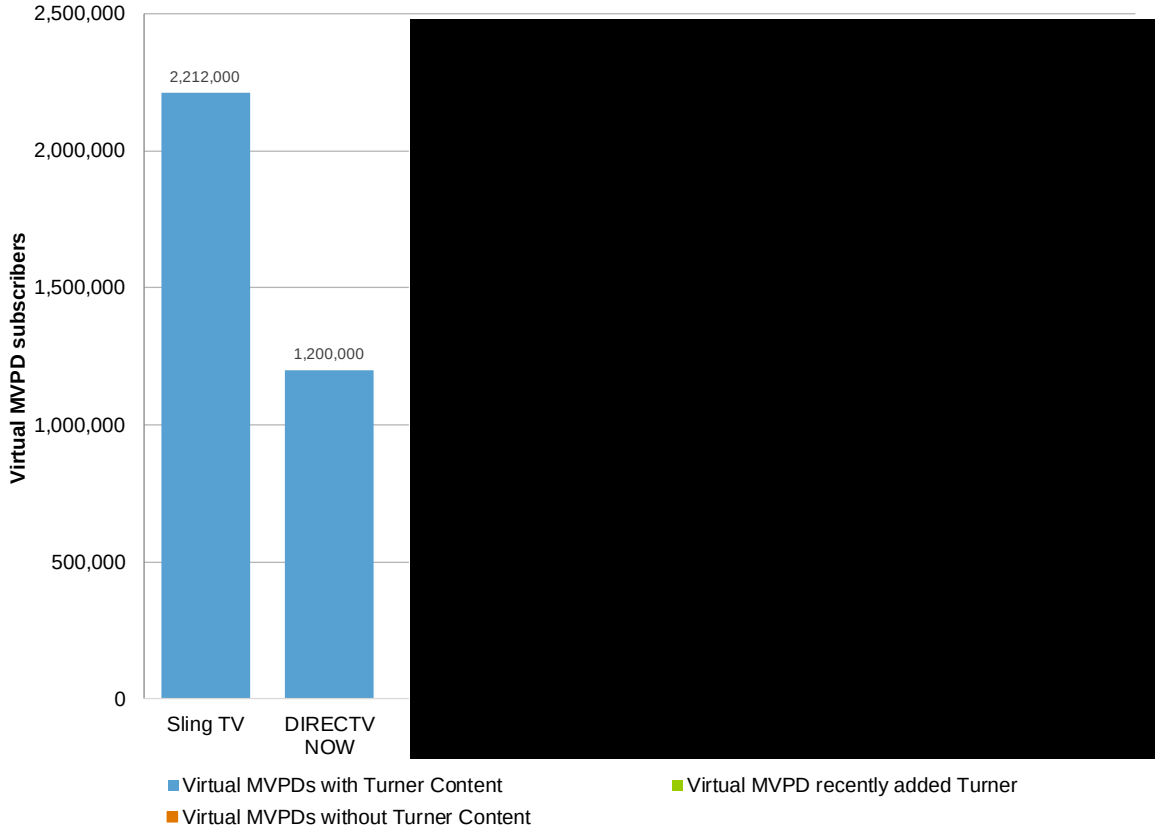
[48] Lynch Dep., at 116:20-117:8.

[49] Deposition of Warren Schlichting, Feb. 16, 2018, at 163:25-164:7. *See also* Deposition of Warren Schlichting, Apr. 19, 2017, at 129:17-131:10 [redacted]

[50] Deposition of Dwayne Benefield, Feb. 19, 2018, at 49:15-50:4, 58:15-59:9.

[51] Todd Spangler (2016), "DirecTV Now Debuts, Reveals Full Channel Lineups," *Variety*, Nov. 30, http://variety.com/2016/digital/news/directv-now-full-channel-lineups-1201930124/; Hulu, "Hulu Launches New Live TV Streaming Service, Adds Channels from Scripps Networks Interactive" (May 3, 2017), available at https://www.hulu.com/press/hulu-launches-new-live-tv-streaming-service-adds-channels-from-scripps-networks-interactive/. Comcast's XFINITY Instant TV and Charter's Spectrum TV, which are available only within those companies' respective broadband footprints, also both launched with Turner Content. Swapna Krishna (2017), "Charter tests streaming-only cable service for $20/month," *Engadget*, Jun. 30, https://www.engadget.com/2017/06/30/charter-spectrum-streaming-only-cable-service/; Todd Spangler (2017), "Comcast Debuts 'Xfinity Instant TV's Skinny Bundle for Broadband-Only Users," *Varie*ty, Sep. 26, http://variety.com/2017/digital/news/comcast-xfinity-instant-tv-launches-1202573808/.

Figure 4. Professor Carlton's Table 7, With Subscribership Data



Source: CTL_DOJ0010262-265; GOOG-DOJATT-00000116; HULU-DOJ-00000001; Deposition of Dwayne Benefield, Feb. 19, 2018, at 54:7-8; Dish Network Corp Annual Report for 2017, available at http://files.shareholder.com/downloads/DISH/6002021254x0xS1558370-18-826/1001082/filing.pdf; AT&T Inc. Annual Report for 2017, available at https://otp.tools.investis.com/clients/us/atnt/SEC/sec-show.aspx?FilingId=12564537&Cik=0000732717&Type=PDF&hasPdf=1;Luke Bouma (2018), "fuboTV Tops 150,000 Viewers During The Super Bowl," Cord Cutter News, Feb 6, 2018, https://www.cordcuttersnews.com/fubotv-tops-150000-subscribers/; Jeff Baumgartner (2018), "Virtual MVPDs Ended 2017 with 5.3M Subs: Study," Multichannel, Feb 23, available at http://www.multichannel.com/news/content/virtual-mvpds-ended-2017-53m-subs-study/418107.
Note: Subscriber counts are directly from each company except for fuboTV and Philo TV where their estimates are from third party news sites.

6.3.2 Lack of Turner Content Limits Virtual MVPD Growth

Having reviewed the Carlton Report, I continue to conclude that the Turner Content is highly valuable to Virtual MVPDs.

Professor Carlton asserts in Section III.C.2 of his report that a number of Virtual MVPDs have not offered the Turner Content. Based on this observation, he states:[52]

[52] Carlton Report, at ¶85 .

> The fact that there are already multiple VMVPDs competing today, and several of them found it viable to enter without Turner networks, undermines Plaintiff's theory of harm that withholding Turner programming would have "severe effects on competition."

As support for this conclusion, Professor Carlton points to the four Virtual MVPDs—YouTube TV, CenturyLink Stream, fuboTV, and Philo TV—that launched without Turner content.[53] However, a closer examination of the evidence undermines Professor Carlton's conclusion that the Turner Content is not especially important for Virtual MVPDs that seek to win subscribers away from MVPDs. By focusing solely on the *number* of Virtual MVPDs that do or do not carry Turner channels, without reference to their size or significance, Professor Carlton omits an important part of the picture, as illustrated above in Figure 4.

The fact that a product has been launched does not mean that it will be a commercial success, or even that it will be viable in the long term. Furthermore, Professor Carlton implies that the Virtual MVPDs that launched without Turner Content did so because they believed it to be unnecessary, without noting that each of them sought the Turner Content.

Given these shortcomings in Professor Carlton's discussion, a fuller factual examination of these entrants' experiences with Turner Content is warranted. Upon examination of the evidence, looking beyond the mere fact that several Virtual MVPDs launched without Turner Content, their subsequent market experience supports my conclusion that Virtual MVPDs that carry the Turner Content are far more likely to be popular and successful.

The experience of YouTube TV is instructive as regards the importance of Turner Content for a Virtual MVPD. Prior to its launch in April 2017, YouTube TV's content strategy was to carry [redacted] and two of the three among [redacted][54] Thus, YouTube believed it needed a certain amount of content to launch successfully and considered Turner among its top options. Consistent with this strategy, Google launched YouTube TV with the four broadcast networks and without Turner.[55] [redacted][56]

After launching, YouTube TV analyzed user data and determined that [redacted]" with [redacted][57] YouTube further determined that

[53] Carlton Report, at ¶83-84.

[54] GOOG-ATTTW-00000001-064, at -022-023.

[55] YouTube, "YouTube TV is now live," (Apr. 5, 2017), last accessed Feb. 12, 2018. https://youtube.googleblog.com/2017/04/youtube-tv-is-now-live html.

[56] Deposition of Robert Kyncl, May 23, 2017, at 37:16-39:22.

[57] GOOG-DOJATT-00002766-808, at -780, -782;

Turner sports were [redacted]

Accordingly, the team at YouTube responsible for the analysis recommended adding Turner Content to close YouTube TV's [redacted][60] YouTube TV and Turner subsequently reached a carriage deal early in 2018.[61] The Turner Content is now available on YouTube TV.[62] With this deal and others for sports content, YouTube TV is in the process of raising its price and "betting that its strong sports offering will help win over more subscribers."[63] This outcome does not support Professor Carlton's conclusion that the Turner Content is of limited importance to Virtual MVPDs, especially Virtual MVPDs that are seeking to compete to win subscribers from MVPDs.

Professor Carlton's second example of a Virtual MVPD that competes without Turner Content is CenturyLink Stream, which launched in June 2017 and recently shuttered.

CenturyLink's customer research for Stream identified NBCUniversal, Disney, and Turner as the three network groups with [redacted][64] [redacted][65] CenturyLink launched Stream even though it lacked Turner

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[58] GOOG-DOJATT-00002766-808, at -778. "dMVPD" refers to digital or Virtual MVPDs. The analysis compared against Hulu, Vue, Sling, and DIRECTV Now and determined that YouTube TV was "the only service not to offer Turner."

[59] GOOG-DOJATT-00002766-808, at -781.

[60] GOOG-DOJATT-00002766-808, at -782; *see also* GOOG-DOJATT-00000020-041, at -023 ("How do we fill key content gaps with lowest possible budget impact to improve acquisition and churn? 1. Sign Turner to close biggest non-replaceable live sports and news gaps."). ; GOOG-DOJATT-00003277-377, at -331 (recommending Turner as the top-priority content deal)

[61] Deposition of Robert Kyncl, Feb. 12, 2018, at 65:14-23.

[62] YouTube, "YouTube TV's Got Game on Valentine's day: More Channels and Markets," (Feb. 14, 2018), last accessed Feb. 16, 2018. https://youtube.googleblog.com/2018/02/youtube-tvs-got-game-on-valentines-day.html.

[63] Jessica Toonkel (2018), "Google raises price of YouTube TV, adds sports, Turner", *Reuters*, Feb. 23, https://www.reuters.com/article/us-alphabet-youtubetv/google-raises-price-of-youtube-tv-adds-sports-turner-idUSKCN1G721D ("Less than one year after launching YouTube TV, the company is increasing its pricing to $40 per month from $35 per month as it adds Turner's channels, which include TNT, CNN and TBS, and soon will be adding MLB Network and NBA TV, the company said. . . . 'Google is betting that its strong sports offering will help win over more subscribers, said Heather Moosnick, director of content partnerships, YouTube TV. 'Sports is really one of the key offerings that a millennial would be willing to pay for a live TV service,' she said.").

[64] [redacted]

[65] Deposition of Steven Sklar, Feb. 9, 2018, at 28:10-30:5; *see also Id.* at 30:6-15 [redacted] *see also* Deposition of Richard Warren, Feb. 9,

Content because there is a difference between a [redacted] which is the [redacted][66] On this basis, CenturyLink planned to add [redacted] after Stream had been on the market for six months.[67]

In February 2018, about eight months after launch, CenturyLink discontinued Stream.[68] At its peak, Stream had only about [redacted] customers; the service never moved beyond what Stream described as a beta or "soft-launch" phase.[69] The CenturyLink Stream outcome also fails to support Professor Carlton's conclusion that the Turner Content is of limited importance to Virtual MVPDs that seek to compete directly for MVPD subscribers.

Professor Carlton's third example, fuboTV, launched in 2015 as a niche product focused on soccer fans.[70] It sought to obtain Turner channels in late 2015,[71] without success. fuboTV reached out to Turner again in June 2016 and said that it remained "still very interested in adding Turner,"[72] but again no deal was reached. fuboTV continued to attempt to obtain Turner Content and sent Turner a proposed term sheet again, as recently as November 20, 2017.[73] As shown above in Figure 4, fuboTV has far fewer subscriber than the Virtual MVPDs that carry the Turner Content. Contrary to Professor Carlton's assertion, the fuboTV example does not show that a Virtual MVPD can compete effectively to win subscribers from MVPDs without access to the Turner Content.

Professor Carlton's fourth example is Philo, a Virtual MVPD that launched in November 2017. Philo is an "entertainment-focused" bundle that excludes sports and the broadcast networks.[74]

2018, at 277:23-279:15 [redacted]

66 Sklar Dep., at 28:10-30:15.

67 CTL_ATT0000003, at slide 7 [redacted]

68 Sklar Dep., at 61:13-23; *id.* at 18:20-22 (Stream launched in June 2017); Jeff Baumgartner (2018), "CenturyLink Pulling Plug on OTT TV Beta Service, " *Multichannel*, Feb. 23, http://www.multichannel.com/news/content/centurylink-pulling-plug-ott-tv-beta-service/418278.

69 Sklar Dep., at 18:20-22 (June 2017 launch); *Id*. at 167:6-9 ([redacted] *Id*. at 19:10-18 ([redacted]

70 fuboTV launched in January 2015. Business Wire, "Streaming Soccer Platform fuboTV Raises $4 Million in Series A Funding," (Aug. 4, 2015), available at https://www.businesswire.com/news/home/20150804005668/en/Streaming-Soccer-Platform-fuboTV-Raises-4-Million (describing fuboTV as "an [OTT] streaming service that gives soccer fans access to live global games and tournaments").

71 TWI-03444891-894 (Fubo CEO proposing terms for a three-year deal for carriage of TNT, TBS, TruTV, CNN, and Adult Swim and asking for a launch "prior to March Madness so we could generate strong traction into the year").

72 TWI-03426329-330 (June 21, 2016, email in which fubo tells Turner it is "still very interested in adding Turner" and that it has "been holding a position for Turner for quite some time").

73 TWI-LIT-00502461 and attachment (term sheet).

74 TWI-LIT-00172581

According to an HBO executive, Philo's offering is "vastly different" than that of other Virtual MVPDs on the market.[75] Due to its more limited content, Philo is able to charge only $16 per month, the lowest current price point among the Virtual MVPDs.[76] Like fuboTV, Philo sought to include Turner Content in its core bundle.[77] When Philo had not reached a Turner deal over six months after sending Turner a counteroffer, it decided to first close deals with A&E, AMC, Discovery, Scripps, and Viacom,[78] all of which were or became strategic investors in Philo.[79] In the end, because Philo launched so recently, it is too early to say whether Philo will succeed as a service, whether it will be able to win subscribers away from MVPDs, and whether it can do either without the Turner Content.

These four histories of Virtual MVPDs that launched without Turner Content support my conclusion that Turner Content is highly valuable and contributes to a Virtual MVPD's success, especially for a Virtual MVPD that seeks to compete to win subscribers away from MVPDs.

6.4 *Suddenlink/Viacom Episode*

Professor Carlton and I are in agreement that for blackout evidence to be informative about the importance of Turner, the "blackout needs to be long lasting."[80] We also agree that one must track not only the loss of existing subscribers due to the lack of certain content but any reduction in the flow of new subscribers as well. Subscriber Loss Rate estimates from a long-lasting blackout automatically account for both the loss of existing subscribers and loss of prospective subscribers. Such estimates also automatically account for the MVPD's competitive reaction or, as I called it in the Shapiro Report, countermeasures.[81] Professor Carlton and I are further in

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[75] TWI-LIT-00526490-491 (Sept. 15, 2017 email from Jeff Dallesandro, HBO executive who sits on Philo's board: "Philo plans to have a package that doesn't include Sports and the Big Broadcast networks and their cable nets. . . . This offering is vastly different than that of YouTube's, Hulu, FuboTV, etc.").

[76] Sarah Perez (2017), "Philo ditches sports to introduce a $16 per month live TV service," *Techcrunch*, Nov. 14, https://techcrunch.com/2017/11/14/philo-ditches-sports-to-introduce-a-16-per-month-live-tv-service/.

[77] TWI-LIT-00745530 (May 18, 2017 email in which a Turner employee reports on the Philo negotiations: "We spoke briefly about our proposal, their counter, and our lack of flexibility regarding rates and carriage."); *see also* TWI-LIT-00172581 (March-May 2017 email chain where Philo tells Turner: "The core content bundle is quickly coming together and I would really like to see Turner a part of it").

[78] *Compare* TWI-06344586-615, at -588 (Sept. 22, 2016, Philo board presentation, noting that Philo had received a Turner term sheet and sent a counteroffer) *with* TWI-LIT-01460078-095, at -080 (April 4, 2017 Philo board presentation, deciding to "[e]valuate the inclusion of Turner" after closing deals with these programmers).

[79] Jeff Baumgartner, "Philo Unleashes Entertainment-Focused OTT TV Service," *Multichannel*, Nov. 14, 2017, http://www.multichannel.com/news/content/philo-unleashes-entertainment-focused-ott-tv-service/416505 (listing these network groups both as Philo's lead content and as among Philo's investors).

[80] *See* Carlton Report, at ¶72 ("First, the blackout needs to be long lasting, both so that existing and potential new subscribers have time to react, and, equally importantly, so that the MVPD has time to react competitively to the loss of content.")

[81] *See* Shapiro Report, at §8.1.

agreement that Suddenlink's loss of Viacom Content provides a highly relevant data point for estimating the Turner Subscriber Loss Rate.[82]

Unlike Professor Carlton, however, I do not consider the subscriber loss estimated for Viacom Content to be a "reasonable proxy" for the subscriber loss estimate for Turner Content.[83] As I stated in the Shapiro Report, and as I further explain in Section 6.6 below, documentary evidence shows that Turner Content is significantly *more* valuable than Viacom Content. Thus, it is likely that the subscriber loss rate for Turner Content is larger than the loss rate for Viacom Content.

Professor Carlton does not provide his own data analysis of the subscriber losses resulting from the Viacom blackout on the Suddenlink platform. Instead, he relies upon documentary sources that only provide *short-term* estimates of the decline in Suddenlink subscribers as a result of the loss of Viacom content. But Professor Carlton and I agree that the *long-term* subscriber loss rate is the far more important metric. Moreover, Professor Carlton does not assess whether the short-term estimates that he reports are consistent with Suddenlink's own subscriber data. This is a major omission.

Figure 5 shows the short-term (three-month) estimates Professor Carlton cites, along with the long-term estimates that I analyzed. To provide a comparison with Professor Carlton's estimates, I include a 3-month to 27-month time profile of my estimates of Viacom Subscriber Loss Rates. As shown in this figure, my estimates of the three-month effect of the Viacom drop are in line with Professor Carlton's estimates. [redacted].[84]

[82] *See* Carlton Report, at ¶72 ("The best available estimate of the likely consequence of the long-term loss of the Turner networks on an MVPD is the subscriber loss experienced by cable operator Suddenlink when it did not reach agreement for access to Viacom's networks (including Nickelodeon, Comedy Central, MTV and others) from the fourth quarter of 2014 to the third quarter of 2017.")

[83] *See* Carlton Report, at ¶77 ("…Viacom in 2014 is a reasonable proxy for a possible Turner blackout.")

[84] [redacted]

Figure 5. Suddenlink-Viacom Subscriber Loss Rate Estimates

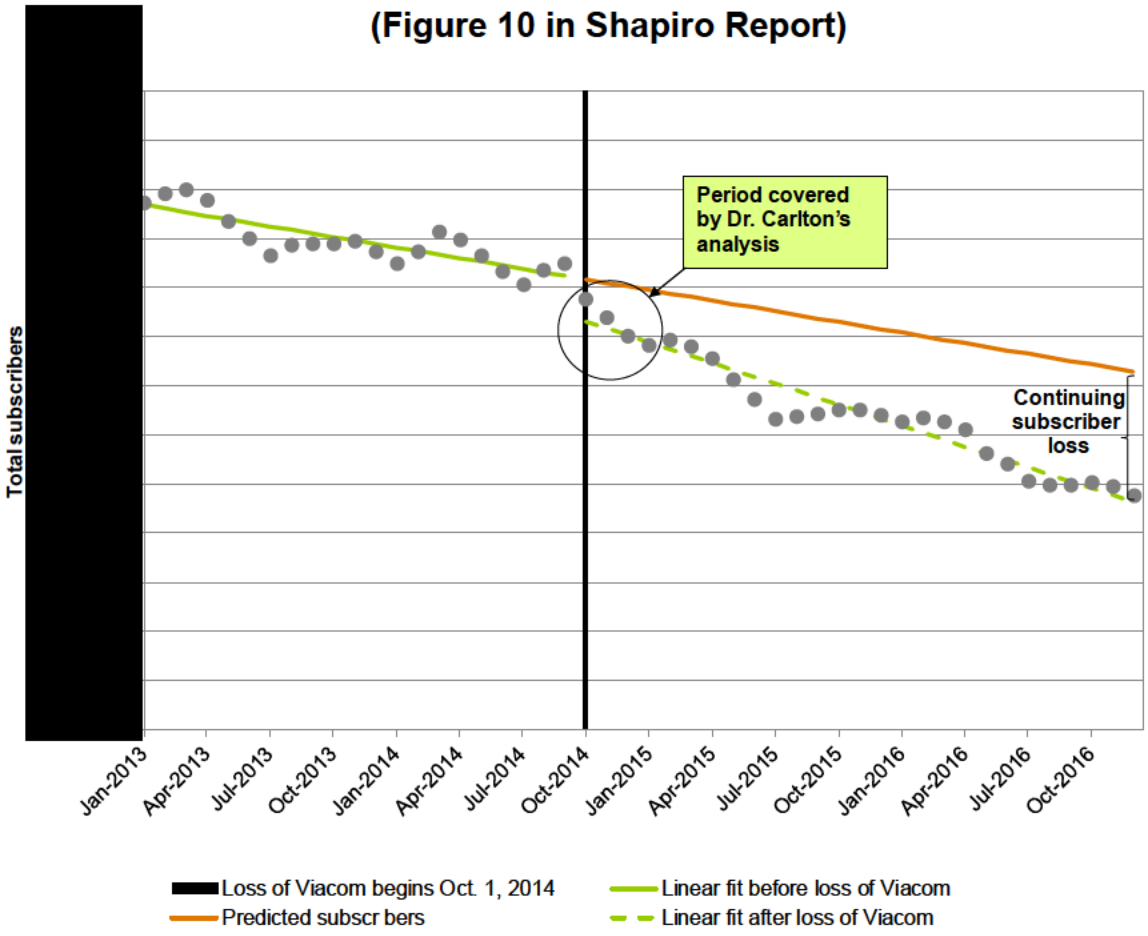
Period Following Loss of Viacom	Shapiro Report[a]	Carlton Estimate[b]
3 months	[redacted]	[redacted]
9 months	[redacted]	None Given
12 months	[redacted]	None Given
27 months	[redacted]	None Given
Long-term	**9.40%**	**None Given**

Source: [a] Shapiro Report, backup and Appendixes D and F; [b] Suddenlink (2015), "Cequel Communications Holdings I: Fourth Quarter and Full Year 2014 Results", slide 11, Feb. 24, available at http://s22.q4cdn.com/118672413/files/doc_presentations/suddenlink/2015/Cequel-Communications-Holdings-I-LLC-Q4-2014-Earnings-Presentation.pdf.

Professor Carlton presents a chart taken from a February 2015 Suddenlink presentation to investors.[85] That chart, as with the estimates of Suddenlink's Viacom Subscriber Loss Rate that he cited, is necessarily limited in scope, as the analysis uses subscriber data from the immediate aftermath of the Viacom Drop (from the first week of October 2014 to the first week of January 2015). To put that chart in context, I reproduce Figure 10 from the Shapiro Report as Figure 6 below, highlighting the limited time horizon presented by Professor Carlton. As can be seen in Figure 6, it is not reasonable to draw conclusions about the long-term effect of the Viacom Drop on Suddenlink subscribership from the brief time frame analyzed in the Suddenlink presentation. In Appendix D, I extend the methodology in this presentation over the entire time period for which Suddenlink data are available. This analysis further demonstrates that the methodology in the Suddenlink presentation supports my finding that Suddenlink subscriber loss continued for an extended period after the loss of Viacom Content.

[85] *See* Carlton Report, Figure 9.

Figure 6. Suddenlink's Continuing Subscriber Loss Due to Loss of Viacom Content and the Period Professor Carlton Focused On (Figure 10 in Shapiro Report)



Source: ALT-00010559.

To summarize, as can be seen from Figure 6, Professor Carlton and I are in agreement regarding the short-term effect of Suddenlink's loss of Viacom Content. The three-month estimate of [redacted] from my initial report lies in the middle of the range cited by Professor Carlton of [redacted] However, Professor Carlton does not perform any data analysis related to the long-term effect on Suddenlink of the loss of Viacom Content, and he does not provide any estimate of the long-term Viacom subscriber loss rate at Suddenlink. As I showed in my initial report, the implied long-term Viacom subscriber loss rate at Suddenlink is 9.4%.[86] This long-term subscriber loss rate is substantially greater than the [redacted] short-term subscriber loss rate that Professor Carlton cites, which applies only to the first three months of the Viacom blackout at Suddenlink.

[86] *See* Shapiro Report, at Appendix D.

6.5 *Cable One/Viacom Episode*

In addition to the Suddenlink-Viacom episode, Professor Carlton also cites Cable One's loss of Viacom Content (beginning in April 2014) as a relevant real-world experiment.[87] I agree that the Cable One episode can be informative regarding the Turner Subscriber Loss Rate.

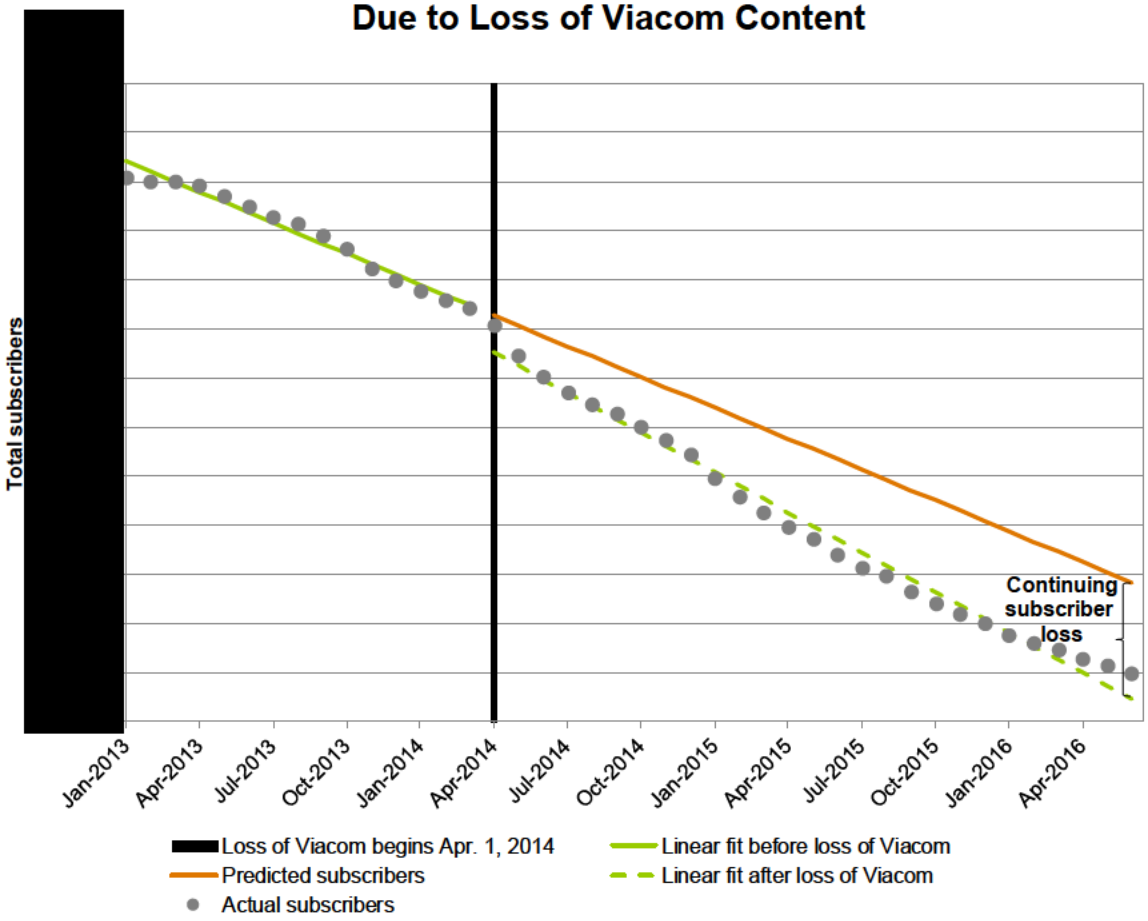
Using subscriber data from the Cable One internal document that Professor Carlton cites, I replicated my Suddenlink analysis for the Cable One episode.[88] I estimate that Cable One's Viacom Subscriber Loss Rate, over the same 27-month time span covered by my Suddenlink analysis, was about [redacted].[89] Figure 7 shows the impact that the prolonged loss of Viacom Content had on Cable One subscribership. The pattern in this figure is very similar to the one Suddenlink observed after it lost access to Viacom Content.

[87] *See* Carlton Report, at ¶79.

[88] *See* DOJ-ATTTWX-CABONE-000001.

[89] Over a shorter time frame of four months, I estimate Cable One's Viacom Subscriber Loss Rate to be about 4.8%. [redacted]

Figure 7. Continuing Subscriber Loss at Cable One Due to Loss of Viacom Content



Source: DOJ-ATTTWX-CABONE-000001.

So far as I can tell, Cable One expended fewer resources mitigating the subscriber loss associated with its lack of access to the Viacom Content than did Suddenlink.[90] This may simply reflect different business judgments about the best way to respond to the loss of the Viacom Content. However, if Cable One actively tried to minimize other programming costs during the period of the Viacom drop, for reasons unrelated to that loss of content, then its business strategy may have contributed to its subscriber loss. Even if one were to put less weight on a long-run estimate based on Cable One for that reason, over a relatively short term of four months, I estimate that Cable One lost about [redacted] of its subscribers. This effect is roughly twice that

[90] *See* COMATT-COM-00016592, slide 2. *See also* Bevin Fletcher (2017), "Cable One Grows Margins to 46.4 Percent While Losing Video Subs in 2Q," *CED Magazine*, Aug. 09, https://www.cedmagazine.com/news/2017/08/cable-one-grows-margins-464-percent-while-losing-video-subs-2q. If Cable One applied fewer countermeasures than a typical MVPD, then Cable One's Viacom Subscriber Loss Rate may be higher than a typical MVPD would experience.

experienced by Suddenlink after four months and thus points to a higher long-term Viacom Subscriber Loss Rate for Cable One than for Suddenlink.[91]

Professor Carlton also cites two other sources regarding Cable One's Viacom Subscriber Loss Rate, but these sources do not appear to be informative regarding a long-term loss rate. Of these two sources, one is an email from Verizon that further cites an National Cable Television Cooperative ("NCTC") estimate of [redacted] This email provides no information about the analysis that NCTC performed, the time frame to which that estimate applies, and whether the estimate includes only disconnects or also includes loss of new subscribers. The second source is an internal Cable One spreadsheet. That is the document that I relied upon for the above calculations, which suggests that the Viacom Subscriber Loss Rate is larger on Cable One than on Suddenlink.[92]

In sum, the evidence regarding the short-term effect of the loss of Viacom Content on Cable One suggests that, if anything, Cable One would have experienced an even higher Viacom Subscriber Loss Rate than did Suddenlink.

6.6 *Turner Content Is More Valuable to MVPDs than Viacom Content*

While I agree with Professor Carlton that the loss of Viacom Content is informative of the Turner Subscriber Loss Rate, I do not agree that subscriber loss from a Viacom Drop is a "reasonable proxy" for the subscriber loss from a loss of Turner Content. Simply put, Turner Content is distinctly more valuable than Viacom Content, and any estimate of the Viacom Subscriber Loss Rate is likely to *underestimate* the Turner Subscriber Loss Rate.

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[91] Cable One experienced a short loss of Turner Content in October 2013. *See* Todd Spangler (2013), "Turner, Cable One Reach Deal to End 25-Day Blackout," *Variety*, Oct. 26, http://variety.com/2013/biz/news/turner-cable-one-reach-deal-to-end-25-day-blackout-1200765065/. While this episode did not last long enough to enable estimation of the Turner Subscriber Loss Rate, the proximity of the two blackouts may affect my estimate of the effect of the Viacom drop. As a sensitivity check, I rerun the analysis restricting to the period after the Turner blackout ended. The results are very similar. In this sensitivity, the short term (4 month) effect of the loss of Viacom Content on Cable One is [redacted] and the 27-month effect is [redacted]

[92] *See* Carlton report, at ¶79. Professor Carlton appears to misinterpret the analysis in this spreadsheet. He describes the rate from this document as a subscriber loss rate. However, a review of the spreadsheet suggests that it contains only estimates of the churn rate (i.e., number of disconnects) and not subscriber loss rate (which also includes loss of new subscribers and would therefore be greater than the reported churn). *See* Carlton Report, at ¶79 ("Cable One estimated in 2017 that the Viacom blackout had a total [redacted] impact on subscribership…"). The spreadsheet in question provides an estimate of the increase in the churn rate and increase in number of disconnects, not the increase in the subscriber loss rate. *See* DOJ-ATTTWX-CABONE-000001. [redacted] Professor Carlton also interprets the analysis as finding no ongoing effect after August 2014. *See* Carlton Report, at ¶79 ("[the Viacom blackout] had no ongoing effect after August 2014"). This is not a reasonable interpretation of the analysis, and there is no such description in the spreadsheet itself that supports Professor Carlton's view. The formulas in the spreadsheet identify only the short-term impact of the Viacom drop and do not determine the long-term impact on loss of existing or prospective subscribers. This is because the spreadsheet uses 2015 and 2016 as a comparison to 2014. Thus, the formulas do not allow an analysis of long-term effects, since all such effects are simply subtracted from the effect that is being estimated, which is the short-term effect of the Viacom Drop.

In support of his assertion that the subscriber losses due to lack of access to the Viacom Content will be similar to the expected subscriber losses due to lack of access to the Turner Content, Professor Carlton offers three arguments.[93]

First, he points out that Viacom in 2014 and Turner in 2016–2017 had similar viewership shares and programming costs. However, as I point out above in Section 6.1, viewership shares taken alone are a very poor metric for the value of a package of programming to an MVPD.

Second, Professor Carlton notes that Viacom in 2014 had more original shows as well as a greater number of shows in the top 500 series than Turner and HBO combined had in 2014 and today. But this is a selective way of assessing the commercial significance of a package of programming content. Notably, Viacom offers no sports and no live news,[94] while Turner offers substantial news and sport programming.[95] As I show in the Shapiro Report and Appendix C of this report, sports are a key part of Time Warner's programming strategy. Sports events are the most watched content on television, and licensing rights to broadcast premium sports are expensive and scarce.[96]

Third, Professor Carlton notes that firms use Suddenlink's experience after losing access to the Viacom Content to benchmark the likely effect of a loss of access to the Turner Content. For example, Professor Carlton discusses a 2013 AT&T internal analysis, which found that AT&T expected the impact from a Turner blackout to be similar to the impact from a Viacom blackout that it had experienced in 2012.[97] This view seems to be contradicted by other more recent statements. In 2016, AT&T CEO Randall Stephenson described Viacom's cable networks as "a disaster" to the AT&T board of directors, while describing Time Warner as "the highest quality asset available after [Disney]."[98]

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93 *See* Carlton Report, at ¶77.

94 ATT-DOJ2R-03166038-073 (AT&T, "Viacom Contingency Playbook, Expires September 30 (11:59 PM ET), 2015," August 25, 2015, p. 7.)

95 *See* Deposition of [redacted], Feb. 6, 2018, at 125:23-127:11[redacted]

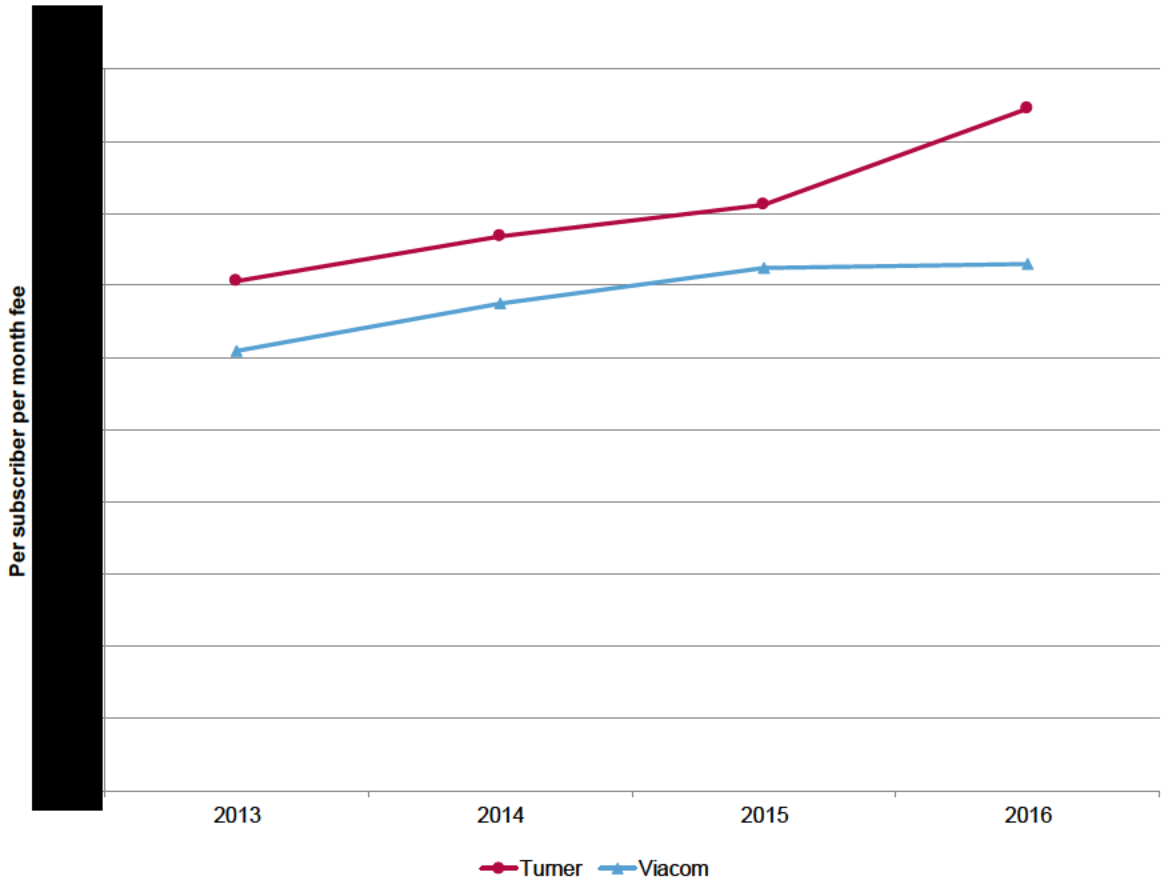
96 *See* Shapiro Report, at §3.2 and §4.2.

97 ATT-DOJ2R-08581120-160, at -136 (DIRECTV, "Turner Renewal Strategy," September 4, 2013). *Id.* at -122. In this internal analysis AT&T also notes that its "negotiating position [with Turner] is not as strong relative to the Viacom deal" and that "Going dark may be [AT&T's] strongest leverage, but the impact will be greater than Viacom."

98 ATT-DOJ2R-02608749-761, at -758; Deposition of Randall Stephenson, Feb. 6, 2018, at 159:22-160:15 ("Q. Do you see the sub-bullet there says "Viacom, their cable network is a disaster." Is that a fair description of what you perceive Viacom is? A. Their cable networks have not been performing well, yeah. So I—Q. They are a disaster? A. That may be overstating it a little bit, but they are not—they were not in good shape at the time. Q. Okay. A. From the perspective of somebody who might look at buying the assets, and what you would have to do to get those assets back in shape, in order, disaster would probably be a fair characterization of somebody who might be wanting to own those. Okay?").

A superior measure of the relative likely loss of subscribers from a loss of access to Turner versus Viacom Content is what MVPDs have been willing to pay for Turner versus Viacom Content. The Turner Content commands substantially higher affiliate fees than Viacom Content, as shown in Figure 8. This figure shows the per subscriber monthly fees that MVPDs paid on average to Turner and Viacom, for each year between 2013 and 2016. In 2013, Turner commanded about [redacted] higher PSPM fees than Viacom. By 2016, this gap increased further, as average Turner PSPM fees were about [redacted] higher than average Viacom PSPM fees.[99] This gap in PSPM fees is far more informative than the two measures of Turner's commercial significance offered by Professor Carlton.[100]

Figure 8. PSPM Fees Earned by Turner and Viacom, 2013–2016



Source: Time Warner Inc., Turner Exhibit 3c_updated and 3d_updated; VIACOM-003039–090.

Other evidence from MVPDs suggests that (a) loss of access to the Turner Content was likely to drive a larger loss of subscribers than loss of access to the Viacom Content in 2014, when Suddenlink dropped Viacom, and (b) Turner Content continues to be a bigger driver of

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[99] In Appendix E, I show that the same pattern holds over a longer period of time, using data from SNL Kagan.

[100] [redacted] *See* CHTR-SUBP-001921.

subscriber loss than Viacom Content in 2017.[101] For instance, the Chief Content Officer at Altice, which acquired Suddenlink in 2015, asserted that Altice's customer churn due to the loss of Turner's networks would be [redacted] than the estimated churn from Suddenlink dropping Viacom.[102] Other MVPDs have similarly indicated that a Turner blackout would cause greater subscriber loss than a Viacom blackout. Cable One, the only MVPD to have experienced a blackout of both Turner and Viacom, described how different the two experiences were. While dropping Viacom was [redacted] for Cable One because [redacted] Cable One [redacted]"[103] Notably, MVPDs focus specifically on the concept of subscriber loss when comparing the importance of the Turner Content versus the Viacom Content.[104]

Surveys also indicate that consumers value the Turner Content more than the Viacom Content. MVPDs often rely on such surveys to evaluate the importance of specific networks or network groups. [redacted].[105] The survey asked respondents to compare the relative values of the Disney, Turner, and Viacom network groups. One question asked customers how they would react if the ABC/Disney, Turner, or Viacom network groups were to be dropped. The responses indicated that 40% of customers would search for a replacement TV provider if either the ABC/Disney or Turner networks were dropped. The comparable figure for Viacom was 30%.

That survey also asked respondents to name their top five "must-have" networks. The top three networks were ESPN (mentioned by 43% of respondents), TNT (38%), and TBS (36%). The next most frequently mentioned network was mentioned by only 25% of respondents. Further, Turner had four networks in the top 10: TNT, TBS, Turner Classic Movies, and CNN. Viacom

[101] [redacted]

[102] Deposition of Michael Schreiber, May 10, 2017, at 206:1-207:9.

[103] Deposition of William R. Sejen, Feb. 13, 2018, at 26:16-28:2.

[104] [redacted]

[105] ALT-00004692-738, at -693 to -695.

had only two networks in the top 10: Comedy Central (19%) and TV Land (18%), placed ninth and tenth, respectively.

7. Impact of Industry Changes on Key Bargaining Model Inputs

Professor Carlton claims that "the video industry has become more competitive over the last several years."[106] He asserts that "under Plaintiff's theory, competitive harm was more likely to result from the previous vertical integration events than from the AT&T/Time Warner transaction," and that along each of the three key dimensions of my bargaining model (subscriber loss rates, diversion ratios, and margins), "the Comcast/NBCU transaction would have been expected to generate greater increases in prices compared to AT&T/Time Warner."[107]

My estimates of key inputs to the bargaining model are based on the most recent data and documents.[108] Therefore, any changes in the industry that have taken place since the Comcast/NBCUniversal transaction are already accounted for in my estimates. Given that the focus here is on the current merger, I now address Professor Carlton's arguments regarding expected changes in my key inputs in the future, and the impact of those changes on my harm estimates. While it is true that there have been some major changes in the video industry, Professor Carlton does not fully examine the likely impact that these changes have on the key inputs into the bargaining model and thus on the merger effects predicted by that model. Professor Carlton emphasizes how future changes in the industry could decrease the harm estimates but does not give sufficient attention to the ways in which these changes could increase the harm estimates.

In this section, I use industry data and estimates from AT&T's own documents to adjust the key inputs in my model to project into the future. I find that the projected increase in rivals' costs in the 2021 market configuration, not including the expected effects of inflation, will be between 15% lower and 20% higher than my estimated increase under the 2017 market configuration.[109] Rivals will see a cost increase ranging between $618 million per year and $876 million per year in 2021, compared with the $731 million estimate that I present using 2017 data.[110] My estimate for 2021 does not account for increased diversion to DTV as a result of the growing popularity of 5G wireless technology. Accounting for that factor would increase the harm estimated by the model.

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[106] *See* Carlton Report, at ¶119.

[107] *See* Carlton Report, at ¶120.

[108] In the Shapiro Report, I relied upon the most recent Turner subscriber data (from December 2016) available to me at that time. Additional data for 2017 was produced later. I present estimates using the 2017 data in Section 13 and Appendix G of this report.

[109] I compute all 2021 projected estimates in 2017 dollar terms.

[110] It is possible that the subscribers diverting from Virtual MVPDs to DTV are low margin subscribers. If I were to assume zero margin on the subscribers diverted from Virtual MVPDs to MVPDs, the range of estimate for increase in rivals' costs would come down to between $561 million per year and $795 million per year. However, doing so clearly leads to an underestimate.

As in the Shapiro Report, these calculations indicate the merger's price effects in a given year in the absence of long-term agreements for the carriage of Turner Content. This approach allows me to estimate the full price effects of the merger under the market configuration present in a given year, not moderated by the presence of such long-term agreements. In the presence of long-term agreements that are not renegotiable, and allowing for no other effects of the merger on the relationship between Turner and an MVPD, the harms captured in the model will accumulate over a number of years, as Turner's contracts with MVPDs expire and need to be renegotiated.

Furthermore, and importantly, my bargaining model and quantification necessarily focus on the Turner PSPM fees and the increased bargaining leverage that Turner gains from having a higher disagreement payoff after the merger, but the merger would alter more than this disagreement payoff and thus would tend to impact other aspects of the relationship between Turner and an MVPD. As Turner's incentives change as a result of the merger, a profit-maximizing AT&T can be expected to alter the stance taken by Turner in dealing with an MVPD as AT&T takes into account DTV's interests. That is, Turner will have an incentive to take actions that disadvantage rival MVPDs relative to DTV. These incentives will begin to operate as soon as the merger takes place. If Turner cannot act on those incentives by raising the PSPM fee to an MVPD, due to the presence of an extant agreement with that MVPD, these underlying incentives will predictably emerge in other ways. In addition, the merger would create a shared incentive for Turner and the MVPD to renegotiate the PSPM fee upward, which could lead to a renegotiated agreement with a higher Turner PSPM fee, so long as there were sufficient non-PSPM terms and conditions that could be used to compensate the MVPD for that higher fee. My model is not capable of quantifying these non-price effects. Showing how Turner's fees would go up in the absence of any long-term commitments regarding the Turner PSPM fees allows me to quantify Turner's immediate change of incentives in a manner that is consistent and systematic.

In the remainder of this section, I discuss in more detail the impact that anticipated changes in the industry are likely to have on the key bargaining model inputs, and how these changes affect my estimates of the harm resulting from the merger.

7.1 *Subscriber Loss Rates*

Professor Carlton suggests that the growth of OVDs since 2010 is important for an analysis of MVPD loss rates. He notes that "subscribers today (unlike in 2010) could choose from a wide range of OVD options to compensate for the lost programming."[111] Professor Carlton uses the term "OVDs" to include both Virtual MVPDs, such as DIRECTV NOW and Sling TV, and SVODs such as Netflix and Amazon Prime.[112] In line with market definitions laid out in the Shapiro Report, I continue to treat the two separately.

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[111] *See* Carlton Report, at ¶123.

[112] In Shapiro Report, I explain that the narrower product market, i.e., the Multichannel Video Distribution market, includes both MVPDs and Virtual MVPDs. I include SVODs only in the broader product market, i.e., "All Video Distribution" market.

I agree that as Virtual MVPDs and SVODs have improved their offerings, consumers have benefitted from having additional options for obtaining video programming in their homes. However, this does not imply that the Turner Subscriber Loss Rate has fallen over the past several years, as Professor Carlton claims.[113] In fact, the opposite appears to be the case, since Turner's affiliate fees have grown steadily and quite rapidly over time, as shown above in Section 6.2. These higher fees likely reflect the increasing value that MVPDs put on the Turner Content, as measured by the Turner Subscriber Loss Rate that Turner and these MVPDs anticipate. I see no basis for assuming that this trend, which has been in place for a number of years, will reverse itself over the next several years.

In addition, there is a good economic reason why the view presented by Professor Carlton does not adequately capture the subscriber dynamics operating in the video content distribution industry. To the extent that OVDs such as Netflix, which do not offer the Turner Content, attract consumers away from an MVPD that does offer the Turner Content, it is reasonable to expect that on average the consumers who remain at that MVPD place greater value on the Turner Content than did the departing subscribers. Therefore, looking ahead, economically it is reasonable to expect that the Turner Subscriber Loss Rate at MVPDs will *rise* along with the increased popularity of OVDs that do not offer the Turner Content.

For these reasons, it is reasonable to project a *higher* Turner Subscriber Loss Rate in 2021 than in 2017. In my sensitivity analysis, I consider two estimates of the Turner Subscriber Loss Rate in 2021. In my primary estimate, the Turner Subscriber Loss Rate grows from 2017 to 2021. In my alternative estimate, the Turner Subscriber Loss Rate remains constant between 2017 and 2021. The alternative estimate gives lower estimate of harm from the merger.

7.2 *Diversion Ratios*

Professor Carlton states that "consumers leaving their MVPD today have more options than merely switching to another MVPD."[114] I agree, and I accounted for this in my analysis in the Shapiro Report. In my 2021 analysis here, I use one measure of this trend away from MVPDs. However, this measure does not account for the introduction of 5G wireless technology, which promises to make cellular wireless Internet service a much closer substitute for fixed wireline Internet service, such as the broadband service offered by Comcast and other cable companies.[115]

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[113] Carlton Report, at ¶123.

[114] Carlton Report, at ¶¶126-127. For instance, some AT&T documents show survey evidence on disconnecting customers subscribing to over-the-top (OTT) and over-the-air (OTA) products (including SVOD and Virtual MVPD options). *See* ATT-DOJ2R-00383148-154, at -153. Per AT&T executives, such churn surveys overestimate the share of consumers switching to OTT options because many of them return to Pay TV after a period of time. *See* ATT-DOJ2R-05113052.

[115] ATT-DOJ2R-01405945-6019, at -5990 ("Some providers are considering 5G as a means to provide last-mile access for home broadband"); *id.* at -5997 (5G home broadband's high-frequency spectrum allows for fiber-like capacity and services at short distances). ATT-DOJ2R-13944139, at 1 ("5G provides significantly higher speeds than current network technologies (10x-100x faster) and greater volumes of data. This may also enable a fixed broadband solution that could replace traditional home internet service"). ATT-LIT-00910685-765, at -743 ("[T]here would be some outliers that will never do business with the 'cable company,' but at the right price even that sentiment beings to thaw – especially given the necessity of a high-speed residential broadband. Once 5G fixed wireless becomes

Because AT&T is the largest wireless company in the United States, 5G wireless technology has the potential to significantly increase diversion to its MVPD services.

In recent years, AT&T has maintained a steady share of subscribers in the MVPD market.[116] Looking ahead, AT&T expects the growth of its own Virtual MVPD, DIRECTV NOW, to "partially offset" the decline in new subscribers of its MVPD products.[117]

Industry estimates suggest that traditional MVPDs' share of subscribers in the MVPD market will decrease by about 10% from 2016 to 2021.[118] This change will tend to reduce the diversion ratio from an MVPD to DTV. For example, if diversion rates continue to be proportional to market shares in the MVPD market,[119] then the diversion from Comcast to DTV is likely to decline from about 45% to 37%.[120] Diversion from Comcast to U-verse is expected to decline from about 11% to about 8% over this same time period.[121] At the same time, AT&T's own Virtual MVPD, DIRECTV NOW, is likely to expand its share of subscribers. An AT&T document estimates that DIRECTV NOW will grow from [redacted] million subscribers in 2017 to [redacted] million subscribers in 2022 and that DIRECTV NOW's share of subscribers among Virtual MVPDs will grow from [redacted] during this same period.[122] As a result, while diversions from Comcast to DTV and U-verse will decline, diversions from Comcast to DIRECTV NOW during this period will increase from less than 1% to about 7%.

My 2021 analysis accounts for both of these trends. A decline in diversions to DTV and U-verse will reduce the harm estimates, while a rise in diversion to DIRECTV NOW will have the opposite effect on the harm estimates. This opposite effect will be larger, the more that DIRECTV NOW is able to raise its margins, and as AT&T's bundles of 5G wireless service and

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more reliable, that may change, but until then the supremacy of the physical line is a key reason that MSOs like Comcast enjoy an indisputable strategic advantage.")

[116] ATT-LIT-04573233-285, at -236. Between 2015 and 2017, at 25.4%, AT&T maintained a steady share of MVPD subscribers.

[117] ATT-LIT-01308221-246; ATT-LIT-01315938-970, at -944.

[118] Industry estimates that Virtual MVPD subscribers will grow from 1.8 million in 2016 to 10.9 million in 2021 and traditional MVPD subscribers will shrink from 96.3 million in 2016 to 85.3 million in 2021. SNL Kagan, "The State of Online Video Delivery," 2017 ed., at 3, available at https://www.snl.com/web/client?auth=inherit#news/docviewer?mid=45203300&persp=doc&SearchMode=2&SNL3=1. Traditional MVPDs' market share in 2016 is 96.3/(96.3 + 1.8) = 98.2%. Their market share in 2021 is 85.3/(85.3 + 10.9) = 88.7%. The percentage reduction is (98.2% − 88.7%)/98.2% = 9.7%.

[119] If, compared with an average MVPD subscriber today, the average MVPD subscriber in the future has an overall stronger preference for MVPDs over OVDs (because, by then, OVDs would have gained the customers who find them most attractive), then, all else equal, the growth of OVDs would lead to *higher* diversion ratios to DTV in the future.

[120] The rollout and implementation of 5G wireless technology may well increase the diversion to DTV above the level predicted based on DTV's market share, reducing or reversing this decline. The diversion estimates discussed here represent diversions before adjustment for outside good.

[121] If AT&T converts U-verse video subscribers to DTV, this number will fall and the diversion to DTV will correspondingly rise.

[122] ATT-LIT-04573233-285, at -257.

either DTV or DIRECTV NOW become a better substitute for the services provided by rival MVPDs.

7.3 *DTV Margins*

Professor Carlton claims that the profit DTV expects to earn from a new customer, the customer lifetime value ("LTV"), has "fallen dramatically" in recent years.[123] However, he does not provide evidence showing that the decline in the DIRECTV Video LTV that he reports in his Figure 16 is due to competition from OVDs. Rather, he points to the growth in OVD subscribership and a concurrent decline in DTV's Video LTV.[124] As I show in the Shapiro Report, programming fees have been rising far faster than inflation during the same period over which Professor Carlton measures the DIRECTV Video LTV.[125] These rising fees will also cause the DIRECTV Video LTV to decline, unless they are fully passed through to consumers.

Moreover, as I explained in the Shapiro Report, looking at just the video margins, as Professor Carlton does, does not capture the full picture.[126] AT&T is a multi-product firm, and in addition to selling video, it also sells fixed line telephone, wireless, and broadband service. Furthermore, with the introduction of 5G wireless technology, wireless service is likely to become a more important complement to AT&T's video offerings. Therefore, for subscribers who will divert to DTV, AT&T expects to earn much more than just video margins. Under these circumstances, it is highly desirable for any forward-looking exercise to account for trends that impact AT&T's margins on services that it expects to bundle with video offerings. These margins are sizeable in aggregate.[127] For instance, AT&T documents indicate that it expects to expand its fiber product from over [redacted] homes in 2017 to over [redacted] homes by 2022.[128] AT&T also plans to launch its mobile 5G service in 2018[129] and to roll it out nationwide by 2022.[130]

These projections suggest that AT&T will be able to offset declines in its video-only margins with gains on other offerings. Indeed, AT&T's internal documents suggest that it expects growth

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[123] Carlton Report, at ¶130.

[124] Carlton Report, at ¶130. Lifetime value of a subscriber is the present value of the sum of all monthly profits (after deducting variable costs) that an MVPD will earn over the expected lifetime of a subscriber, after netting out subscriber acquisition costs. For more detail, *see* Shapiro Report, Appendix I.

[125] *See* Shapiro Report, Figure 4.

[126] *See* Shapiro Report, at §8.3, 58

[127] *See* ATT-LIT-01369067-091, at -084 (Showing LTV for a triple play product, including wireless, video, and broadband, as more than six times the LTV for a video only product).

[128] *See* ATT-LIT-04573233-285, at -265–266. (5G mobile wireless is capable of average internet speed over 100 Mbps).

[129] *See* AT&T Inc., "AT&T to Launch Mobile 5G in 2018" (Jan. 04, 2018), available at http://about.att.com/story/att_to_launch_mobile_5g_in_2018 html.

[130] *See* ATT-LIT-01369067-091, at -075 (high-speed 5G wireless expected to cover 300 million consumers by 2022)

in multi-product households to help offset the decline in the single-product LTVs.[131] Using information from AT&T documents, I project the LTV of an average AT&T subscriber, after taking into account the growing share of multi-product households.[132] By increasing its multi-product selling, AT&T expects its average LTV to increase by about [redacted] from 2017 to 2022.

AT&T documents, as well as deposition testimony, indicate that AT&T has concrete plans to increase the number of households to which it sells multiple products.[133] These documents also indicate that AT&T is making progress in executing this plan and that the effect will be to increase AT&T's margins and the LTV of its subscribers. For example, an AT&T executive summary states, "We have made progress since last year in our cross-selling to the base, but in comparison to benchmarks, we have room for acceleration."[134] Thus, contrary to Professor Carlton's assertions, AT&T's subscriber LTVs may well *increase* over the next several years.

AT&T's internal expectations are in line with overall predictions by industry analysts. Analysts predict that the gains in broadband revenues will offset the decline in margins of video offerings.[135] Analysts also expect that the next pay-TV frontier is likely to be mobile multichannel, where AT&T has a first-mover advantage compared to other MVPDs, because AT&T is both the largest MVPD and a leading wireless carrier.[136]

In addition to these points, Professor Carlton's assertion regarding the long-run trend in DTV's Video LTVs appears to be based on a flawed methodology. As a result, his assertion of a 40% decline from 2012 to 2017 is not reliable. Rather than presenting DTV's actual internal LTV data, Professor Carlton chose to "normalize" the data by replacing the varying discount rates with a constant discount rate.[137] However, AT&T's varying discount rate is likely a reflection of changes in market conditions, not an error that requires normalization. Therefore, applying a uniform discount rate seems inappropriate, as it potentially ignores the interdependence of discount rate, the LTV, and prevailing market conditions. The data taken directly from AT&T

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[131] *See* Deposition of David Christopher, Feb. 14, 2018, at 52:23-53:8 ("Q. And is it consistent with your understanding that the voluntary churn rate for multiproduct video customers is lower than the voluntary churn rate for standalone video customers? A. Typically, yes."); *Id.* at 69:7-19 ("[W]e see lower churn sometimes when customers are in multiproduct. The churn is what affects the LTVs, is my understanding."); ATT-LIT-04573233-285, at -283.

[132] ATT-LIT-04573233-285, at -283.

[133] ATT-LIT-01013182-212; *See also* ATT-LIT-04573233-285; *See* Christopher Dep., at 22:23-23:11 ("We have tried to get different combinations of our customers into multiproduct . . . . We have tried different offers and promotions."); *see* Torres Dep., at 43:13-19 ("Q. Do multi-product customers tend to be higher margin customers? A. They do. Q. Do you offer promotions to people to get them to subscribe to multiple products with AT&T? A. Yes.").

[134] ATT-LIT-01013182-212, at – 183.

[135] SNL Kagan, "Cable Industry Overview," 2017 Ed., at 11. ATT-LIT-00910685-765, at -760 ("For multi-service operators like Comcast, Verizon, and AT&T, selling broadband/mobile+TV bundles can offset lower video ARPU by adding or increasing broadband or mobile revenue.")

[136] SNL Kagan, "Cable Industry Overview," 2017 Ed., at 1.

[137] Professor Carlton chooses a constant discount factor of 5.75% despite acknowledging that "DIRECTV has changed the discount rate used in its LTV calculations over time, with lower discount rates used in later years." *See* Carlton Report, at ¶130, note 127.

documents, without applying such a normalization, show that the Video LTV of a DTV customer in 2017 is largely the same as it was in 2011, or slightly higher. The DIRECTV Video LTV increased from 2011 to 2012 and then declined from 2012 to 2017 by about 21%.

For my 2021 analysis, I report two scenarios. For my primary estimate, the 2021 DTV margins are roughly 5% higher than in 2017. This scenario reflects the growth in multi-product LTVs found in AT&T's planning documents. Over this same period, AT&T also projects that the margin on DIRECTV NOW will increase.[138] Therefore, my primary estimate is based on AT&T earning a positive margin on subscribers diverted to DIRECTV NOW. For my alternative estimate, I hold AT&T's margins constant at 2016/2017 levels when predicting the harm under the 2021 market configuration. For this estimate, I also assume that AT&T will earn no margins on subscribers diverted to DIRECTV NOW. These alternative assumptions most likely lead to an underestimate of the harm resulting from the merger.

7.4 *Combined Effect of the Changes in Key Inputs*

As discussed above, Professor Carlton and I are in agreement that the key inputs to the bargaining model will be affected by the changes in the industry. Where we disagree is the direction and the magnitude of the changes in key inputs. Specifically, the question of interest is whether the key inputs to my bargaining model are likely to change enough in the next several years to eliminate the increase in rivals' costs and consumer harm that I predicted in the Shapiro Report using the 2016 market configuration. They do not.

Overall, the analysis presented above shows that the predictions of the bargaining model do not change significantly from 2017 to 2021. Compared with the estimates that I used in the Shapiro Report, the Turner Subscriber Loss Rate will likely be higher, the diversion ratios from rival MVPDs to the combined AT&T will be somewhat lower, and AT&T's video distribution margins are likely to remain stable or increase over time.

To estimate the overall impact of changes in the industry, I apply my bargaining model to the 2021 market configuration, using the best information available to me about the conditions that are likely to prevail in 2021. For the reasons described above, I adjust the Turner Subscriber Loss Rate and AT&T's margins to reflect anticipated changes in market conditions. I also adjust diversions based on projected subscriber counts for MVPDs and Virtual MVPDs.[139] Because of uncertainty about the value of certain parameters in 2021, I present a range of harm estimates.

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[138] Christopher Dep., at 166:7-167:6 ("Q. So is it your expectation that DirecTV NOW will begin to earn a positive margin on the lower end packages in the near future? A. There are lots of opportunities for to us evolve this early nascent product into higher margin characteristics. It could be features such as cloud DVR. It could be features such as multiple streams. It could be content such as pay-per-view. It could be bringing advertising and data monetization into the product. So we're confident that the margins are going to improve in this product…. I'm confident the margins will improve, and there are lots of ways to do that.").

[139] To estimate each MVPD's Turner subscriber count in each local market in 2021, I first scale each MVPD's Turner subscriber count in each local market from the 2016 value to 2017 value by multiplying a scaling factor that is the ratio between this MVPD's 2017 Turner subscriber count and its 2016 Turner subscriber count. I then scale the 2017 subscriber counts to get 2021 counts using different scaling factors for traditional MVPDs and vMVPDs based on

My primary estimate takes into account the likely impact of future changes and relies upon a projection for each of the three key inputs that is based on the best information available to me in documents, data, and through industry sources. I allow the 10% Turner Subscriber Loss Rate from 2016 to rise along with the anticipated (real) increases in Turner PSPM fees. I also account for the likely increase in DTV, U-verse, and DIRECTV NOW margins.

I estimate that the merger will cause the average PSPM Turner fee paid by rival MVPDs to be about $1.21 higher in the 2021 market configuration. This corresponds to an annual increase in the Turner fees of about $876 million. After accounting for the EDM savings to DTV (which I also expect to be higher in 2021 than in 2017), the net increase in annual MVPD costs will be about $473 million.[140] If I were to apply the same pass-through rate (about 121%) that the merger simulation predicts in the 2017 market configuration (see Figure 11), the net harm to consumers in the 2021 market configuration will be $571 million.

My alternative, lower estimate, fixes the Turner Subscriber Loss Rate and AT&T's video distribution margins at their 2017 levels and allows diversion rates to adjust to the expected changes in subscriber shares.[141] With these assumptions, the bargaining model predicts that the average PSPM Turner fee increase for rival MVPDs is about $0.85, corresponding to an annual Turner fee increase of about $618 million. After accounting for the EDM savings to DTV, the model predicts a net increase in annual MVPD costs of around $215 million in the 2021 market configuration. Using the predicted pass-through rate from the 2017 market configuration, this would work out to about $259 million in annual consumer harm, in the 2021 market configuration.

8. What We Can Learn from Prior Vertical Transactions

Professor Carlton states, "When possible, a useful way to study the effects of a proposed vertical merger can be an empirical investigation of past integration events in the industry."[142] I agree that previous instances of vertical integration (or disintegration) can be informative. Indeed, I said as much in the Shapiro Report.[143] I also identified the same four transactions that Professor Carlton does as potentially informative. However, I also pointed out their limitations: (a) none of the four involves the same scope of integration and likelihood of impacting consumers as the current transaction, and (b) the Time Warner/Time Warner Cable transaction and the Comcast/NBCUniversal transaction may not be good test cases for evaluating the applicability of the bargaining model. The limited footprint of the cable companies involved in those two transactions may make it difficult to detect a merger-induced price increase using available

SNL Kagan projections. SNL Kagan, "The State of Online Video Delivery," 2017 ed., at 3, available at https://www.snl.com/web/client?auth=inherit#news/docviewer?mid=45203300&persp=doc&SearchMode=2&SNL3=1.

[140] The alternative 16% estimate of Turner Subscriber Loss Rates from 2016 cited in the Shapiro Report, adjusted for countermeasures, and scaled for future periods, results in higher primary and alternative estimates. The net increase in annual MVPD costs then fall into the range between $467 and $722 million.

[141] I account for the increase in Turner Subscriber Loss Rates from 2016 to 2017.

[142] *See* Carlton Report, at §V.

[143] *See* Shapiro Report, at §7.4.

data.[144] In addition, as I had stated in the Shapiro Report, Comcast's post-merger behavior has been regulated by an FCC order and "the ongoing oversight faced by Comcast presumably has had some impact on Comcast's ability to increase NBCUniversal's programming fees."[145] Therefore, Professor Carlton's inability to find a significant impact on NBCUniversal's programming fees using available data does not surprise me or cause me to modify my opinions about the proposed merger between AT&T and Time Warner.

In the Shapiro Report, I also provided some reasons why detecting harm from these four past transactions may be quite difficult using the available data.[146] Professor Carlton's inability to detect such harm in part simply reflects the limitations of the available data.

The FOX-DIRECTV and Time Warner-TWC transactions involved circumstances that may have mitigated the incentive to increase programming fees. FOX acquired only a 34% partial ownership interest in DIRECTV, and DIRECTV's national share of subscribers was only 13%, so the likelihood and magnitude of fee increases was small. The incentive to charge higher fees for Time Warner may also have been lower. TWC had a very limited overlap with other MVPDs and thus the merged firm likely had a far lower incentive to charge these rivals higher fees. Professor Carlton does not comment on these issues when interpreting his regressions.

In the case of Comcast-NBCUniversal, the merger investigation and the resulting regulation and ongoing scrutiny had an additional impact on Comcast's incentives. In addition to the direct impact of the FCC Order on NBCUniversal's fees, Comcast's incentive to take advantage of the increased bargaining leverage it obtained due to its vertical integration with Comcast was likely affected by the ongoing oversight and scrutiny provided by the FCC and the DOJ. This is because reactions and complaints by rival MVPDs could lead to an increase in that oversight and scrutiny, including a possible extension of the FCC Order. These considerations also make it more difficult to detect the impact of the merger on NBCUniversal's fees using available data.

Professor Carlton's empirical analysis does not overcome these challenges when examining the impact of the merger on NBCUniversal's programming fees using data from DTV[147] and SNL

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[144] *See* Shapiro Report, at §7.4.

[145] *See* Shapiro Report, at 47–48.

[146] *See* Shapiro Report, at 46–48.

[147] Professor Carlton's analysis based on DTV data also suffers from the problem of over fitting. With fees information for just 42 networks for 2010 and 2017 (and 84 observations), Professor Carlton has 46 explanatory variables in his regression. With two time periods, he has fewer than two observations per variable to estimate his effect of vertical integration. Such models tend to overestimate the precision of regression estimates. This happens in Professor Carlton's regression because he incorporates a large number of network-level "fixed effects" which he claims account for unobservable components of network quality. As an initial matter, the inclusion of these fixed effects may not be warranted, because several of the networks included in the study have "rebranded" over the long interval between 2008 and 2017. Second, if the network fixed effects are removed, the estimated "treatment effect", in Table 9 of Professor Carlton's report, of vertical integration on affiliate fees turns statistically insignificant. Similar issues affect results reported in Table 8 of Professor Carlton's report.

Kagan.[148] His failure to find statistically significant price effects from past transactions does not refute the predictions of the bargaining model. In fact, the economic literature, examining this same industry and using a similar regression analysis approach, has shown that vertically integrated regional sports networks are able to earn higher fees. This research found results consistent with the predictions of Nash Bargaining theory, finding that vertical integration had a significant and positive impact on the fees negotiated by networks.[149] These impacts appear to manifest over time following the integration, presumably because of the staggering of carriage contracts.[150]

Due to the staggering of carriage contracts, Professor Carlton's regression analysis methodology is prone to generating false negative results, i.e., failing to detect anti-competitive effects even when they are in fact present. Professor Carlton's methodology works best when the effects caused by an event being studied occur right away after that event transpires, not with a distributed lag over a number of years.

9. HBO

Professor Carlton claims in Section 8 of the Carlton Report that "HBO is of limited competitive significance."[151] Much of Section 8 of his report appears to be aimed at discrediting a theory that I do not advance in the Shapiro Report. In particular, I do not argue in the Shapiro Report that the merger will lead to an increase in HBO fees in the same manner that it will for the Turner Content. Rather, I explain in the Shapiro Report that, after AT&T acquires HBO, AT&T will have the incentive and ability to reduce the use of HBO by AT&T's MVPD rivals as a promotional tool to attract and retain subscribers from other MVPDs.[152] Here, I address the arguments that Professor Carlton makes that are related to that specific theory of harm.

The Carlton Report identifies only two sources to support his conclusion that HBO is not an important promotional tool for MVPDs.[153] The first is an AT&T document that tracks

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[148] In his SNL Kagan analysis, Professor Carlton relies upon each year of the data from 2008 to 2017 as a separate data point. However, MVPD-programmer contracts are negotiated much less frequently than once per year—often every five to six years. For an empirical estimate of the impact of vertical integration, only the fees before and after the negotiation are informative. The remaining changes in fees are due to other confounding factors, such as staggering of contracts, year-to-year escalation in fees, MFN triggers, etc. However, by using every year of the SNL Kagan data, Professor Carlton's analysis generates a false sense of precision. In addition, SNL Kagan is estimating programmer data (such as, programming expenses) that are in the private domain. This is likely to generate a measurement error and, therefore, lead to under prediction of the true estimate of vertical integration.

[149] Kevin W. Caves, Chris C. Holt, and Hal J. Singer, "Vertical Integration in Multichannel Television Markets: A Study of Regional Sports Networks," *Review of Network Economics*, 2013.

[150] *Id*. *See* Figure 1; Caves et al. find an increasing impact of integration on prices, which is both positive and statistically significant in years 1-5 after the merger.

[151] *See* Carlton Report, at 101.

[152] *See* Shapiro Report, at §14.

[153] Carlton Report, at ¶170 (citing ATT-LIT-03121569 and "MID 2017 Jun-Dec 2018-01-12.xlsx", which together appear to contain promotional offers by AT&T's MVPD competitors; COMATT-GAJ-00000394).

promotional activity by competitors. The second is a Comcast document that does not appear to address the role of HBO as a promotional tool for MVPDs.

The AT&T document cited by Professor Carlton tracks MVPD promotional offers. Most of the MVPDs reported in this document offer HBO-specific promotions or promotional offers that give subscribers free or discounted access to a premium network of their choice, likely including HBO.[154] As discussed in the Shapiro Report, subscribers who accept such "pick-a-premium" offers overwhelmingly opt for HBO over Showtime and Starz.[155] Of the eight major MVPDs, that together comprise 90% of all MVPD subscribers in the United States, six used HBO specifically (as opposed to pick-a-premium) in promotional offers, and the evidence supports the conclusion that HBO is important and valuable to them.[156] In the case of Charter, not only does it use HBO for promotional purposes in its Time Warner Cable footprint, it has also made HBO a critical part of its marketing strategy, and [redacted][157] As Charter has rolled out its own HBO-heavy packaging to Time Warner Cable's legacy footprints, it has gained many basic subscribers and improved its market share considerably.[158]

The [redacted] document that Professor Carlton cited compares the demand for HBO to the demand for other premium channels.[159] The document does not support Professor Carlton's conclusion that HBO is not an important promotional tool for MVPDs. The document itself shows that [redacted] expected that its ability to acquire new subscribers would be [redacted] if HBO were replaced with Showtime in some of its internet bundles.[160] Other evidence

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[154] AT&T Market Intelligence Dashboard: Pricing and Offers Database (ATT-LIT-03121569 and "MID 2017 Jun-Dec 2018-01-12.xlsx"). In 2017, 14 of 23 MVPDs included HBO or a "pick-a-premium" style offer as an element of their promotional offers. MVPDs offering a choice of premium channels typically include HBO as one of the options (Professor Carlton counts 27 MVPDs, instead of 23, because he considers subsidiaries of the same owner as separate MVPDs). *See, e.g.*, Wow Way, "What's on TV? So many choices," last accessed Feb. 24, 2018. http://www.wowway.com/products/tv/north (cable overbuilder WOW! offers HBO as one of the premium channel options for its "Medium" and "Large" cable TV plans).

[155] Shapiro Report, at §14.1.

[156] These eight MVPDs include AT&T/DTV, Charter, [redacted] Dish, Verizon, Cox, Mediacom, and AlticeSchreiber Dep., at 54:18–56:6, 95:8–18, 122:20–123:7, 137:25–138:10; [redacted] Dep., Feb. 6, 2018, at 153:24–154:11; Deposition of Marty Hinson, Feb. 13, 2018, at 16:22-17:10 ("So we know that consumers have high demand for the HBO content, as well as it's an important tool from a marketing perspective. So we [Cox] do leverage HBO in our advertising and our promotional offers.").

[157] Montemagno Dep., at 128:12–129:11, 133:10–22.

[158] *See, e.g.*, TWI-07022063-064 (Spectrum packaging and pricing rollout doing well);

[159] [redacted]. The document does not contain any information as to how the figures presented were derived the source of these numbers or what exactly they were intended to show, and so far as I can determine this issue was not explored in the [redacted] depositions. Even if the numbers were reliable indicators of demand or consumer interest, they do not show that MVPD reliance on or use of HBO has declined in recent years.

[160] *Id.* at -417.

indicates that [redacted] considers HBO important for subscriber acquisition and retention.[161] That evidence further undermines Professor Carlton's conclusion here.

My own conclusion that HBO is an important promotional tool for MVPDs is based on a much broader and deeper body of evidence and remains unchanged. If anything, my conclusion on this point is bolstered by testimony from MVPD executives that has become available to me since I submitted the Shapiro Report.[162]

10. Coordination Between AT&T and Comcast

Having reviewed the Carlton Report, I continue to believe that the proposed transaction would create a real danger of anti-competitive coordination between AT&T and Comcast. In this section, I address Professor Carlton's arguments relating to these coordinated effects.

10.1 *Turner and NBCU Content Are Highly Valuable to Virtual MVPDs*

The Complaint alleges that if the merger proceeds, AT&T and Comcast/NBCUniversal "would have an increased incentive and ability to harm competition by impeding emerging online competitors that they consider a threat, and increasing the prices for the networks they own."[163]

Professor Carlton does not explicitly address the importance of NBCUniversal content to Virtual MVPDs. He also does not explicitly discuss the harm that post-merger AT&T and Comcast together could do to Virtual MVPDs by withholding or restricting their access to Turner and NBCUniversal Content.[164]

Turner Content is highly valuable to Virtual MVPDs, as I explained above.[165] NBCUniversal content is also highly valuable. In fact, each of the eight Virtual MVPDs Professor Carlton identifies in his Table 7, with the exception of Philo, carry NBCUniversal Content.[166] As noted above, Philo only launched in November 2017, Philo's ability to succeed is unknown, and Philo

[161] [redacted]

[162] Montemagno Dep., at 128:12–129:11; Rigdon Dep., Feb. 6, 2018, at 153:24–154:11; Hinson, at 16:22-17:10; Deposition of Suzanne Fenwick, Feb. 14, 2018, at 100:24–101:19.

[163] Complaint, at ¶9 and ¶41. Carlton Report, at ¶176.

[164] Carlton Report, at ¶¶176-80.

[165] Shapiro Rebuttal Report, Section 6.3 ("Evidence from Virtual MVPDs").

[166] Luke Bouma (2017), "Philo vs Sling TV vs DIRECTV NOW vs PlayStation Vue vs Fubo TV vs Hulu vs YouTube TV – Updated December 2017," *Cord Cutter News*, Dec. 9, https://www.cordcuttersnews.com/philo-vs-sling-tv-vs-directv-now-vs-playstation-vue-vs-fubo-tv-vs-hulu-vs-youtube-tv-updated-december-2017.

has shown interest in obtaining access to the NBCUniversal Content.[167] DirecTV Now,[168] Hulu with Live TV,[169] Sony PlayStation Vue,[170] YouTube TV,[171] CenturyLink Stream,[172] and fuboTV's new Virtual MVPD[173] all launched with NBCUniversal Content, and NBCUniversal Content is included in Dish's Sling Blue package.[174]

In short, today's most successful Virtual MVPDs whose business model is to compete directly against MVPDs for subscribers carry both the Turner Content and the NBCUniversal Content.

Because having Turner Content or NBCUniversal Content significantly increases demand for a Virtual MVPD, after the merger AT&T and Comcast could significantly reduce the demand for a Virtual MVPD by jointly withholding or restricting access to their content.[175] As a Turner executive explained, if Hulu's Virtual MVPD were to lack Turner Content and then lose NBCUniversal, it "would be a recipe for Hulu failure."[176]

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[167] Prior to launch, Philo pursued NBCU unsuccessfully. Board presentations show that as of September 2016, Philo was "continuing to push the broadcast networks to provide us with distribution terms." TWI-06344586-615, at -588. By November 2016, it had not received proposals from NBCU or CBS and was "[e]xploring the opportunity to create a non-broadcast bundle," which is what Philo ultimately launched. TWI-06345101-127, at -108. Philo remains open to adding NBCU and the other broadcast networks. Jeff Baumgartner (2017), "Philo CEO: We're 'Open' to Adding Broadcast Nets to New OTT TV Service," *Multichannel*, Dec. 20, http://www.multichannel.com/news/content/philo-ceo-we-re-open-adding-broadcast-nets-new-ott-tvservice/417215.

[168] Todd Spangler (2016), "DirecTV Now Debuts, Reveals Full Channel Lineups," *Variety*, Nov. 30, http://variety.com/2016/digital/news/directv-now-full-channel-lineups-1201930124/.

[169] Hulu, "Hulu Launches New Live TV Streaming Service, Adds Channels from Scripps Networks Interactive" (May 3, 2017), available at https://www hulu.com/press/hulu-launches-new-live-tv-streaming-service-adds-channels-from-scripps-networks-interactive/.

[170] Benefield Dep., at 49:15-50:4.

[171] YouTube, "YouTube TV is now live," (Apr. 5, 2017), last accessed Feb. 25, 2018. https://youtube.googleblog.com/2017/04/youtube-tv-is-now-live html.

[172] Jeff Baumgartner (2017), "CenturyLink Bows Beta of OTT TV Service," *Multichannel*, Jul. 05, http://www.multichannel.com/news/content/centurylink-bows-beta-ott-tv-service/413780.

[173] Jeff Baumgartner (2017), "fuboTV Exits Beta on Some Platforms," *Multichannel*, Apr. 03, http://www.multichannel.com/news/sports/fubotv-exits-beta-some-platforms/411932.

[174] Lynch Dep., at 49:19-50:23; Sling, "Sling Television: A La Carte TV," last accessed Feb. 26, 2016. https://www.sling.com/service. Comcast's XFINITY Instant TV and Charter's Spectrum TV also have both NBCU and Turner. *See also* Spectrum, "Introducing Spectrum TV Stream," last accessed Feb. 25, 2018. https://www.spectrum.com/getstream html (showing that Spectrum TV includes both NBCU and Turner); Todd Spangler (2017), "Comcast Debuts 'Xfinity Instant TV's Skinny Bundle for Broadband-Only Users," *Variety*, Sep. 26, http://variety.com/2017/digital/news/comcast-xfinity-instant-tv-launches-1202573808/.

[175] [redacted] Dep., Feb. 6, 2018, at 146:19-147:19, 125:23-127:11. *See also* Schlichting, April 19, 2017, at 162:14-163:1 ([redacted]").

[176] TWI-02236984 (Mar. 22, 2016 email from John Harran: Hulu's "risk is we choose to go another way—including not participating in the DMVPD at all (instead aligning with competitors or going it alone with HBO and WB) and NBCU pulling out in 2 years after the Decent Decree expires. That would be a recipe for Hulu failure and their

10.2 *The MVPD Industry Is Vulnerable to Coordination*

In the Shapiro Report, I explained why the proposed merger would create a real danger of coordinated conduct by AT&T and Comcast that would slow the growth of Virtual MVPDs that pose a competitive threat to DTV and to Comcast in the MVPD market.

Professor Carlton briefly points to a number of industry characteristics that he asserts would make coordination between the post-merger AT&T and Comcast difficult.[177] In this section, I respond to that portion of the Carlton Report. My discussion here supplements the Shapiro Report, where I explained why the MVPD industry is vulnerable to coordination.

First, Professor Carlton states that "the Complaint seems not to recognize that its primary theory implies that Comcast will be harmed by AT&T post-merger price increases on the one hand, but then that Comcast will become a willing partner with AT&T to harm online distributors."[178] Professor Carlton appears to believe that he has identified some type of inconsistency. If so, I do not agree with him. Yes, Comcast will pay more for the Turner Content if the merger goes forward. But that does not change the fact that it will have an incentive to act in concert with AT&T to achieve their common goal of slowing down the growth of Virtual MVPDs. Large companies often have complex, multi-faceted relationships with their trading partners. Company A can sell some of its products or services to Company B, compete against Company B in another market, and cooperate with Company B in yet a third area to achieve shared goals.[179] Interacting companies have an incentive to structure their bilateral relationships to maximize their joint profits, subject to antitrust limits. I am applying that basic economic logic to the post-merger AT&T and Comcast.

desire to connect windows and influence the market."); *see also* GOOG-ATTTW-00000001-064, at -022–023 [redacted]

[177] Carlton Report, at ¶¶176-179.

[178] Carlton Report, at 109-112

[179] *See*, for example, Barry Nalebuff and Adam Brandenburger (1996), *Co-opetition*, Doubleday, New York, NY. For example, Comcast competes for video subscribers with Verizon in a portion of its footprint. Comcast also resells Verizon's wireless service in bundles with Comcast's pay-TV and broadband offerings. Colin Gibbs (2017) "Comcast's Xfinity Mobile surpasses 250K subscribers" (https://www fiercewireless.com/wireless/comcast-s-xfinity-mobile-surpasses-250-000-subs) ("The massive cable company launched its wireless service in May, offering unlimited data for $45 a month to customers who subscribe to its most expensive internet and TV bundles. … Comcast's offering runs over Verizon's wireless network and stems from a deal that Comcast and other cable operators inked with Verizon in 2012 as part of Verizon's $3.9 billion purchase of their AWS spectrum."). Charter, which also overlaps with Verizon's MVPD footprint, has similar plans to bundle with Verizon's wireless service. Charter press release, May 8, 2017 (http://ir.charter.com/phoenix.zhtml?c=112298&p=irol-newsArticle&ID=2270773) ("The companies, which have each separately activated a mobile virtual network operator ("MVNO") reseller agreement with Verizon Wireless, have agreed to explore working together in a number of potential operational areas in the wireless space, including: creating common operating platforms; technical standards development and harmonization; device forward and reverse logistics; and emerging wireless technology platforms.").

Second, Professor Carlton questions whether AT&T and Comcast will be able to coordinate "in light of several industry characteristics that normally indicate to economists that coordination becomes less likely as a result of these characteristics."[180]

The first characteristic to which Professor Carlton points is the unconcentrated nature of the "content market."[181] However, as noted above, shares in that "market" are misleading and uninformative for the purpose at hand, which is to assess whether lack of access or restricted access to the Turner Content and the NBCUniversal Content would significantly retard the growth of a Virtual MVPD. The reason unconcentrated markets are less susceptible to coordination is that a large number of suppliers must participate for coordination to be effective. That is not the case here: only two participants are needed, AT&T and Comcast, as explained in the Shapiro Report.[182]

The second characteristic to which Professor Carlton points is that "Comcast and AT&T are very different on a wide variety of dimensions, creating incentives for each to behave differently."[183] I agree that Comcast and AT&T differ on multiple dimensions in significant ways, but the issue is whether those differences create diverging incentives with regard to withholding content from Virtual MVPDs. None of the differences that Professor Carlton raises undermines or negates the basic point: after the merger Comcast and AT&T would have a shared interest in withholding their content to retard the growth of Virtual MVPDs that threaten their MVPD businesses. While it is true that AT&T and Comcast have different geographic footprints and that they offer broadband Internet over different infrastructures, they both face the same competitive threat from Virtual MVPDs across their respective video footprints. Nor do these differences alter the fact that both AT&T and Comcast stand to gain by slowing their loss of video subscribers if that competitive threat is reduced. Further, while the Turner and NBCUniversal Content are different, both are highly valuable to Virtual MVPDs, giving their owners the ability to slow Virtual MVPDs' growth and weaken them as competitors.

Professor Carlton also points to the staggered nature of AT&T's and Comcast's contracts with Virtual MVPDs as an obstacle to coordination, stating:[184]

> AT&T's and Comcast's contracts with distributors come up for renewal at different times, meaning that they cannot jointly implement withholding of content (or higher prices for content) at the same time. One would have to do so and hope that the other one would follow suit, in some cases years later.

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[180] Carlton Report, at ¶177.

[181] Carlton Report, at ¶178.

[182] Shapiro Report, at §15.2.1.

[183] Carlton Report, at ¶179. While Professor Carlton emphasizes the differences between Comcast and AT&T when he is discussing coordinated effects, he appears to be believe that they are similar enough that the Comcast/NBCU merger is a close analog to the AT&T/Time Warner merger.

[184] Carlton Report, at ¶179 (bullet 2).

I agree that the staggered nature of the contracts might make it necessary for either AT&T or Comcast to take the lead by withholding content from an established Virtual MVPD that has previously had access to both the Turner Content and the NBCUniversal Content, hoping that this would signal the other to follow suit.[185] But this is not an insurmountable obstacle to coordination, and the staggered contracts may actually *facilitate* signaling and coordination, by enabling the second firm to observe whether the first one has begun to withhold its content before making its own decision whether to do so.

AT&T's and Comcast's contract negotiations or renewals with Virtual MVPDs do not have to be close in time for the threat of anti-competitive coordination to be real. Coordination can take many forms, including "parallel accommodating conduct" or a "common understanding that is not explicitly negotiated."[186] As explained in the Shapiro Report, after the merger, AT&T and Comcast will share the incentive and ability to withhold or restrict their valuable content from Virtual MVPDs,[187] and AT&T will recognize this common interest.[188] The presence of staggered contracts does not negate that shared incentive and ability.

Two additional features of this market facilitate coordination in the presence of staggered contracts. First, in the transition period during which the coordination is becoming established following the merger, if AT&T withholds the Turner Content from one Virtual MVPD, Comcast can reciprocate by withholding the NBCUniversal Content from *another* Virtual MVPD. In this manner, Comcast can reciprocate before NBCUniversal's own carriage agreement with the first Virtual MVPD expires.

Second, AT&T could insert provisions into its carriage agreements conditioning a Virtual MVPD's access to the Turner Content on that Virtual MVPD also gaining access to the NBCUniversal Content by some specified date. Comcast could do likewise. This is not a mere theoretical possibility. Programmers' affiliate agreements with Virtual MVPDs often impose requirements that prevent Virtual MVPDs from distributing one programmer's networks unless they also carry a minimum number of other programmers' networks as part of their service bundle.[189] For example, Turner's agreement with [redacted] requires that the Virtual MVPD

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[185] My discussion here describes possible coordination that does not involve an express agreement between AT&T and Comcast. As explained in the Horizontal Merger Guidelines, coordinated effects can arise without any express agreement. Public signals are one means of achieving such coordination. Horizontal Merger Guidelines Section 7.

[186] Shapiro Report, at 80 (quoting Horizontal Merger Guidelines Sec. 7).

[187] Shapiro Report, at §15.

[188] Shapiro Report, at §15.2.1, 85-86.

[189] [redacted] *see also* [redacted]

also carry [redacted] rated non-Turner networks before it can carry Turner's networks.[190] [redacted]'s carriage agreement with [redacted] service includes a provision of this nature.[191] [redacted] had to navigate contractual requirements that it carry programming for multiple groups.[192] And [redacted]" between programmers' contractual requirements when creating [redacted] with the result that it could not have brought the product to market without all of its launch partners.[193] Contractual requirements of this type shape the options available to parties in subsequent negotiations.[194] Such provisions can facilitate coordination, whether or not carriage agreements are negotiated at different dates.

Moreover, Turner and NBCUniversal likely will negotiate with *new* Virtual MVPDs at points relatively close in time, since such Virtual MVPDs will need to assemble content to launch. Coordination would be achieved if both Turner and NBCUniversal each simply adopts a policy of not licensing to a new Virtual MVPD unless and until the other does so. This is hardly a complex scheme, and it only involves two entities, AT&T and Comcast. Such coordination would substantially diminish the competitiveness of the targeted Virtual MVPDs.

In the end, neither the differences between AT&T and Comcast that Professor Carlton highlights, nor the staggered nature of AT&T's and Comcast's contracts with Virtual MVPDs, negates the incentive or ability of a post-merger AT&T to cooperate with Comcast to reduce the competitive constraints they face from Virtual MVPDs. Furthermore, as explained in Section 15.2 of the Shapiro Report, this industry has several attributes that enhance the incentive and ability of Comcast and AT&T to cooperate to slow the growth of Virtual MVPDs and weaken them as competitors.

11. Efficiencies

Professor Carlton makes four assertions about the efficiencies associated with this merger:[195]

1. "Increasing the value of Time Warner content and advertising inventory through use of AT&T consumer relationships and data is simply following in the footsteps of other

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[190] Turner-[redacted] agreement, TWI-LIT-02847562-597, at -562 ("AFFILIATE shall not distribute the Services until such time that AFFILIATE is also distributing [redacted] non-TNS-affiliated broadcast networks or cable channels via the OTT Service (based on the rankings of Nielsen prime time ratings)")

[191] [redacted]

[192] [redacted] Dep., at 55:10-24 [redacted]; *id.* at 50:5-51:7 [redacted]

[193] [redacted] Dep., at 56:20-60:8.

[194] For example, [redacted] recognized the impact that NBCU's [redacted] requirement would have on its later negotiations. It told NBCU that [redacted]

[195] Carlton Report, at §7, ¶141.

vertically integrated firms in the industry, creates more value from distribution of Time Warner content, and thus places downward pressure on prices in order to expand, not contract, the distribution of Time Warner content."

2. "Cost savings produce downward pressure on prices."
3. "The elimination of double marginalization produces downward pressure on prices downstream."
4. "Innovation can be difficult to quantify but can be important to consumer welfare."

I address each of these assertions below. Before turning to them, however, I briefly discuss three requirements laid out in the Horizontal Merger Guidelines that claimed efficiencies must satisfy before being credited towards offsetting the predicted harm from a transaction.

The first requirement is that a claimed efficiency must be specific to the merger. The Guidelines state that "only those efficiencies likely to be accomplished with the proposed merger and unlikely to be accomplished in the absence of either the proposed merger or another means having comparable anticompetitive effects" are credited as "merger specific."[196] The second requirement is that efficiencies must be verifiable. Asserted efficiencies will "not be considered if they are vague, speculative, or otherwise cannot be verified by reasonable means."[197] The third requirement is that efficiencies not "arise from anticompetitive reductions in output or service."[198]

Regarding Professor Carlton's first assertion,[199] I have not studied AT&T's claims regarding these efficiencies in detail, but Professor Athey has done so. She finds that the claimed quantified revenue synergies related to advertising and content are not merger specific and are speculative and hence unverified. Relying on her conclusions, my analysis does not credit these claimed efficiencies with mitigating the merger's predicted anticompetitive effects.[200]

Regarding Professor Carlton's second assertion,[201] I have not evaluated AT&T's claimed cost efficiencies, but Mr. Ronald Quintero has done so. He finds that none of the claimed cost efficiencies has been shown to be verifiable and merger specific. Relying on his conclusions, my analysis does not credit the claimed cost efficiencies with mitigating the merger's predicted anticompetitive effects.[202]

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[196] US Department of Justice and Federal Trade Commission, "Horizontal Merger Guidelines," August 2010, at §10, ¶2, available at http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf. Hereinafter referred to as "*Horizontal Merger Guidelines*."

[197] Horizontal Merger Guidelines, at §10, ¶4.

[198] Horizontal Merger Guidelines, at §10, ¶5.

[199] Professor Carlton relies on Rajiv Gokhale and Michael Kearns on this point. See Carlton Report at ¶144.

[200] Rebuttal Report of Susan Athey, Feb. 26, 2018.

[201] Professor Carlton relies on Rajiv Gokhale on this point. See Carlton Report at ¶151.

[202] Rebuttal Report of Ronald G. Quintero, Feb. 26, 2018.

I note also that Professor Carlton's claim that "cost savings produce downward pressure on prices" is true of some types of cost savings, but not of others. In most circumstances, efficiencies that lower variable costs, i.e., those affecting costs that vary with the firm's output, put downward pressure on prices. In contrast, efficiencies that lower fixed costs typically do not put downward pressure on prices. Mr. Quintero concludes that all or substantially all of the claimed cost efficiencies pertain to costs that are typically regarded to be fixed costs, or costs that otherwise do not vary directly with the number of subscribers. Thus, even if they were verified and merger specific, they would be unlikely to put downward pressure on prices, especially given that Turner Content is already very widely distributed among MVPD subscribers in the United States.[203]

Regarding Professor Carlton's third assertion, my analysis accounts for the merger's EDM associated with the Turner Content. I have included these efficiencies because I am making an assumption that is the normal working assumption among antitrust economists, namely that the merged firm will act to maximize its overall profits, including its upstream and downstream operations. I believe that Professor Carlton agrees with me on this methodological point.[204] This same basic assumption underlies my bargaining model.

In this case, as explained in the Shapiro Report, the EDM effect is relatively small because the vast majority of MVPD and Virtual MVPD households—over 90%—already pay for access to the Turner Content. Due to the widespread adoption of Turner Content, when DTV, for example, lowers its subscription fees and attracts new subscribers, the vast majority of these new subscribers would have already been paying for access to the Turner Content through their existing MVPD or Virtual MVPD service. That fact greatly reduces DTV's incentive to lower its subscription fees following the merger. My analysis accounts for the remaining EDM effects, which are included in my merger simulation model.

Regarding Professor Carlton's fourth assertion relating to innovation, most of his discussion is very general and does not even involve this specific merger.[205] His very brief application to the current merger is speculative and falls far short of constituting a verifiable efficiency claim. Mr. Quintero has concluded that AT&T has not provided sufficient evidence to establish that any of its claimed innovation synergies are objectively verifiable. [206]

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[203] While fixed costs savings are unlikely to put downward pressure on prices, they can generate other benefits for customers, e.g., by leading to greater product variety or innovation. Along these lines, Professor Carlton states: "Some of the cost savings are fixed costs which can benefit consumers by reducing the costs of research and development projects and thus further increasing incentive [sic] to invest and innovate, especially over the longer-term." However, Professor Carlton does not provide sufficient detail to determine whether any of the claimed fixed cost efficiencies would in fact lead to greater innovation. As noted below, Mr. Quintero has found that AT&T's claimed innovation synergies are not objectively verifiable.

[204] *See* Carlton Report, at ¶142 ("In many cases, only by acting as a single entity that maximizes combined profits can the benefits of internalization fully be achieved.")

[205] See Carlton Report, at ¶¶154-155.

[206] In his opening report, Mr. Quintero stated: "Because AT&T has not offered a quantification of these innovation synergies and has acknowledged that such a quantification would be difficult, and because I have not seen evidence

12. Turner's Arbitration Offer

As described in the Shapiro Report, AT&T has offered some of Turner's licensees and potential licensees certain rights to invoke arbitration over the terms of a license, according to certain procedures that involve Final Offer Arbitration ("FOA").[207] Professor Carlton addresses AT&T's arbitration offer in Section IV of his report at ¶¶86–95. He summarizes his views this way:[208]

> In sum, even if one concluded there were some validity to Plaintiff's theory of harm in this case—contrary to the evidence I have presented above and am about to present in the next sections—the contractual conditions that AT&T has agreed to completely eliminate the mechanism of harm in that theory.

For reasons I now explain, I disagree with Professor Carlton's conclusion on this point.

Professor Carlton asserts that FOA, also known as "baseball-style arbitration," "gives both sides an incentive to make reasonable offers."[209] However, he has not analyzed how the ownership of a video distributor influences the offer that a video content aggregator would submit under FOA. In the Shapiro Report, I showed generally that such an ownership position would give the video content aggregator an incentive to submit a higher offer, taking as given the offer submitted by the counterparty.[210] Arbitration does not and cannot eliminate the incentive created by the merger for AT&T to use the Turner Content to raise the costs of DTV's rivals. Rather, arbitration changes the *mechanism* through which AT&T's incentive to raise rivals' costs operates. Therefore, to the extent that Professor Carlton is alleging that FOA neutralizes AT&T's incentive to use the Turner Content to raise the costs of DTV's rivals after the merger, I disagree.

Professor Carlton also appears to downplay the degree to which FOA would replace market forces with an administrative procedure to establish carriage fees. Under AT&T's arbitration proposal, agreements reached between Turner and MVPDs can and would be used as benchmarks during the arbitration process. This would give Turner an incentive to elevate its fees to MVPDs that would not exist in the absence of the arbitration mechanism.

More generally, relying on an arbitration mechanism to determine carriage fees is fundamentally different from relying on market outcomes to determine carriage fees. Arbitration is inherently "backward looking" because the only benchmarks available to the arbitrators are historical

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that would allow me to predict with confidence the attainment or magnitude of these innovation synergies, it is my opinion that the Defendants have not provided evidence to establish that these synergies are objectively verifiable." Expert Report of Ronald G. Quintero, Feb. 2, 2018, at ¶67. In his rebuttal report, Mr. Quintero states: "In my Opening Report, I stated certain opinions concerning the verifiability and merger-specificity of unquantified innovation synergies. The Gokhale Report does not address these synergies. I therefore do not elaborate on the opinions stated in Opening Report, which are incorporated herein by reference." Rebuttal Report of Ronald G. Quintero, 26 February, ¶56

[207] Shapiro Report, at §18.

[208] Carlton Report, at ¶95.

[209] Carlton Report, at ¶93.

[210] Shapiro Report, at Appendix M.

carriage agreements. If Professor Carlton is correct that the "explosion" of new content will cause Turner's importance to wane, then we should expect Turner's competitive carriage fees to cease rising and perhaps to start declining. Such a change in trend would be very difficult for an arbitrator to discern, especially given Turner's clear incentive to avoid creating benchmark agreements that would be unfavorable to it in arbitration.

Arbitration, like many forms of government regulation, also is poorly suited to deal with technological change. In this industry, technological advances often require that distributors obtain *new* rights from programmers. The proper fees for these rights can be hotly disputed, especially when a new technology is first introduced. By their nature, such new rights will lack historical benchmarks upon which the arbitrator can rely. Furthermore, the arbitrator might not compel Turner to license these new rights at all. [redacted] made just this point in its negotiations with [redacted].[211] Even worse, the fact that one deal for new rights to the Turner Content might be used as a benchmark in arbitration for future deals could have a substantially chilling effect on Turner's willingness to make any such deals, especially if the value of these rights is highly uncertain. This too was a serious concern for [redacted] in negotiating a deal with [redacted].[212]

Furthermore, superior information can be a powerful advantage in arbitration, and in this case Turner is likely to have a substantial informational advantage over rival MVPDs, particularly because under the procedure put forward by AT&T, the two parties engaged in arbitration must submit their final offers before any discovery takes place.[213] [redacted][214] While the MVPD would also have some private information, in an arbitration between Turner and an MVPD, Turner is likely to have the informational edge, because the arbitrators are likely to place more weight on agreements that Turner reaches with other MVPDs to carry the Turner Content than on agreements reached between the MVPD and other content owners, since it is more difficult to

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[211] [redacted]".

[212] [redacted]

[213] GOOG-DOJATT-00002810-814, at Arbitration Procedures C.4.

[214] [redacted]

correct for differences between one package of content and another than to correct for differences between one MVPD and another.

Last, because deals can take a long time to negotiate, AT&T would likely have the ability to strategically influence the order in which deals are reached. AT&T could press forward with MVPDs that AT&T believes are unwilling or unable to invoke arbitration. In this manner, AT&T could establish favorable benchmarks, which it could then use to obtain higher rates from other MVPDs that are more willing to engage in arbitration. [redacted].[215]

13. Updating the Turner Bargaining Model

Based on new information that has become available to me, I am able to update the calculations associated with my Turner bargaining model from 2016 to 2017. This section identifies the new information that I used for this updating exercise and reports the results in summary form. Additional details on the updating process and the results can be found in Appendix G and in the backup materials to this report.

As in the Shapiro Report, these calculations indicate the merger's effect given the market configuration in that year in the absence of long-term agreements for the carriage of the Turner Content. This approach allows me to estimate the full effects of the merger in the market configuration present during a given year, not moderated by the presence of such long-term agreements. As discussed in greater detail above, Turner's incentive to account for the impact on DTV of its dealings with DTV's rivals will operate immediately after the merger takes place and will likely have effects prior to the expiration of the agreements for the carriage of Turner Content that are currently in place, but my model does not quantify those effects.

I now have data about the Turner subscriptions from November 2017; previously my most recent data were from December 2016. From December 2016 to November 2017, the number of Turner subscribers declined by about 4 million, from roughly 89 million to about 85 million.

I also have new data regarding the PSPM fees that Turner receives from MVPDs for its content. These fees rose by roughly [redacted] from on average [redacted] PSPM to [redacted] PSPM.

I do not have updated margin estimates for 2017.

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[215] [redacted].

To compute updated 2017 estimates, I looked for updated estimates of diversion ratios, DTV margins, and the Turner Subscriber Loss Rate. With new Turner subscriber data, I am able to update my diversion rate estimates. I do not have updated data on DTV margins, so I use the same DTV margins in 2017 that I used in 2016. To estimate the 2017 Turner Subscriber Loss Rate, I rely upon my bargaining model. In particular, I rely on the pre-merger relationship between the Turner PSPM fees and the Turner Subscriber Loss Rate derived in the Shapiro Report.[216] I estimate that a 16% higher Turner PSPM fee corresponds to a Turner Subscriber Loss Rate of 12%, after accounting for MVPD countermeasures.[217]

With these adjustments, I find that the merger will raise rivals' costs by about 25% more in the 2017 market configuration than in the 2016 market configuration. Using the 2017 data, the bargaining model predicts increases in Turner fees paid by rival MVPDs of about $61 million per month. See Figure 9 below. The EDM analysis predicts savings to DTV of about $31 million per month. Therefore, the net merger effect attributable to Turner Content is an increase in MVPD costs of about $30 million (see Figure 10). Annually, this works out to an increase in MVPD costs of about $361 million. This is equivalent to an increase of about $0.36 PSPM in MVPD costs. Including DTV and its rivals, this corresponds to a 6.5% increase in the cost to MVPDs for the Turner Content.[218]

As in the Shapiro Report, I apply a merger simulation model to the downstream local MVPD markets to estimate the resulting harm to consumers.[219] As I explained in that report, this model accounts for a change in the merged firm's incentives and the resulting impact on the price that it sets after the merger, after internalizing the reduction in Turner Content's cost to DTV. Therefore, this model simultaneously accounts for the effect of raising rivals' costs and EDM on the prices paid by consumers.

Applied to the 2017 market configuration, and accounting for both the higher costs borne by DTV's rivals and the EDM at DTV, the merger simulation model indicates that consumers will pay about $36 million more per month for MVPD services. See Figure 11.[220] As was the case for the 2016 estimate in the Shapiro Report, this 2017 estimate of consumer harm exceeds the $30 million per month estimate of net cost increase for all MVPDs. On an annual basis, the net increase in consumer costs works out to about $436 million.

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[216] *See* Shapiro Report, at Appendix G, Equation 11.

[217] To compute the updated Turner Subscriber Loss Rate, I use the real Turner fee increase from 2016 to 2017.

[218] At the higher countermeasure-adjusted 2017 Turner Subscriber Loss Rate of 16.9%, the model predicts a net increase in MVPD costs of about $55 million and a PSPM fee increase of about $0.65.

[219] *See* Shapiro Report, at §12.

[220] Some customers are expected to leave the market rather than pay the higher prices from the merger.

Figure 9. Predicted Turner Monthly Fee Increases for Rival MVPDs in 2017

MVPD	Turner subscribers	PSPM increase in carriage fee	% increase in PSPM carriage fee	Total change in carriage fee per month ($)
Comcast	18,207,609	$1.15	21.9%	$20,981,000
Charter	14,238,949	$1.23	22.6%	$17,553,513
Dish	9,357,712	$0.96	18.7%	$9,012,803
Verizon	4,189,638	$0.24	4.1%	$993,232
Cox	3,061,337	$1.23	22.0%	$3,766,238
Altice	3,041,622	$0.62	10.8%	$1,876,058
Mediacom	556,822	$1.07	18.1%	$595,669
Other MVPDs	5,870,480	$0.75	12.6%	$4,377,670
Sling (vMVPD)	1,970,501	$0.73	14.4%	$1,432,568
Playstation Vue (vMVPD)	470,729	$0.71	11.0%	$335,896
Overall	**60,965,401**	**$1.00**	**18.4%**	**$60,924,646**
			Annual Impact	**$731,095,746**

Figure 10. Predicted Net Change in MVPD Monthly Costs for Turner Content Due to the Merger

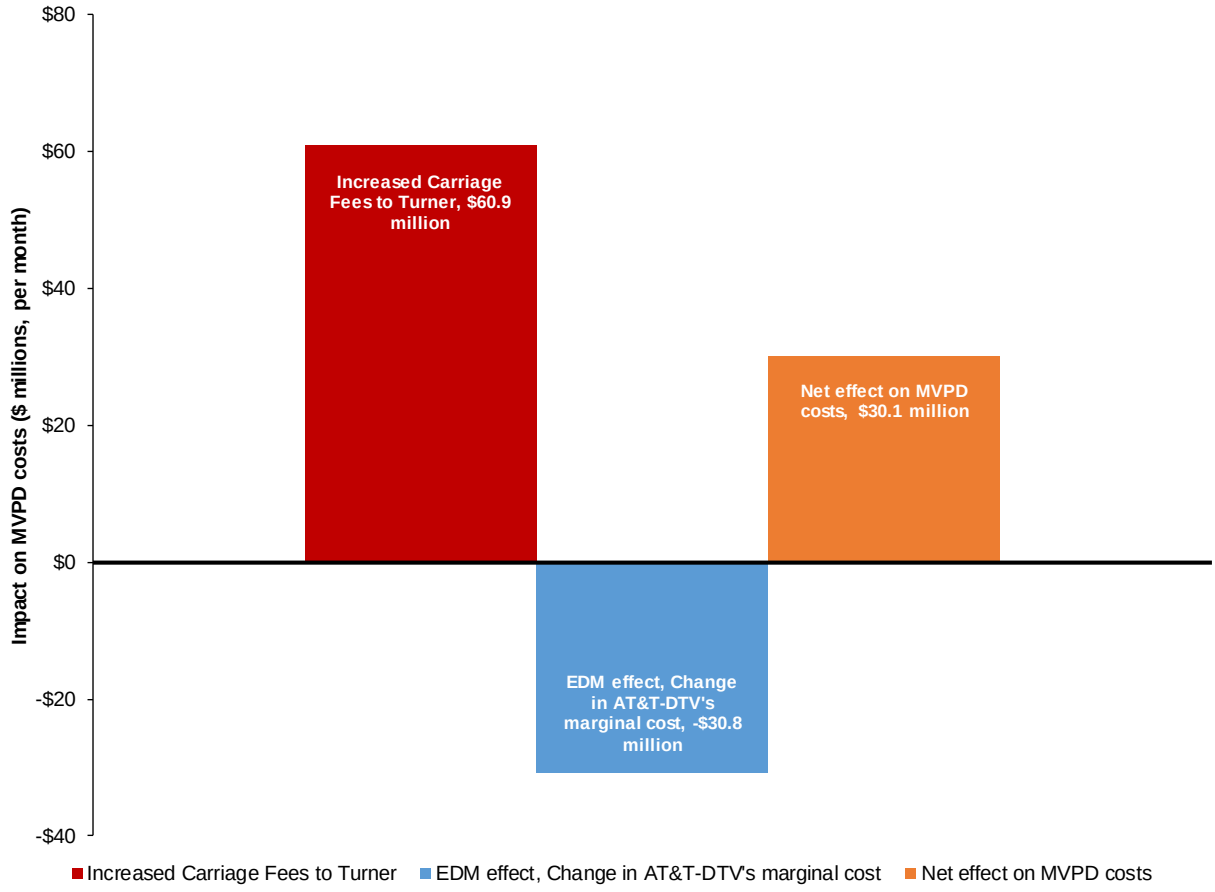

Figure 11. Predicted Impact of Merger on Consumers in 2017 Using Merger Simulation Model

MVPD	Increase in monthly cost to consumers ($, PSPM)	Increase in monthly cost to consumers ($, Monthly)	Implied pass-through rate
AT&T/DIRECTV	($0.11)	($2,588,635)	8.7%
Comcast	$0.64	$11,619,191	55.4%
Charter	$0.75	$10,669,728	60.8%
Dish	$0.82	$7,674,168	85.1%
Verizon	$0.35	$1,468,057	147.9%
Altice	$0.35	$1,053,691	56.2%
Cox	$0.73	$2,245,743	59.6%
Mediacom	$0.85	$474,954	79.7%
Other MVPDs	$0.63	$3,693,996	84.4%
Overall	**$0.45**	**$36,310,894**	**120.7%**
	Annual Impact	**$435,730,726**	

Carl Shapiro

26 February 2018

Appendix A. Testimony of Carl Shapiro During the Past Four Years

1. Determination of Royalty Rates and Terms for Ephemeral Recording and Digital Performance of Sound Recordings (Web IV)

Docket No. 14-CRB-0001-WR (2016-2020)
United States Copyright Royalty Judges, The Library of Congress, Washington, D.C.
Testified in deposition and at the hearing on behalf of Pandora Media, Inc., 2015.

2. Federal Trade Commission, et. al. v. Staples, Inc. and Office Depot, Inc.

Civil Action No. 15-2115-EGS
District of Columbia
Testified in deposition and at trial on behalf of the Federal Trade Commission, 2016.

3. Federal Trade Commission v. Actavis, Inc.

Civil Action No. 1:09-cv-955-TWT
Northern District of Georgia
Testified in deposition on behalf of the Federal Trade Commission, 2016 and 2017.

4. Daniel Grace, et. al, v. Alaska Air Group Inc. et al.

Civil Action No. 16-cv-05165-WHA
Northern District of California
Testified in deposition on behalf of Virgin America, Inc., 2016.

5. Determination of Royalty Rates and Terms for Transmission of Sound Recordings by Satellite Radio and "Preexisting" Subscription Services (SDARS III)

Docket No. 16-CRB-0001 SR/PSSR (2018-2022)
United States Copyright Royalty Judges, The Library of Congress, Washington, D.C.
Testified in deposition and at the hearing on behalf of Sirius XM Radio, Inc., 2016 and 2017.

6. Generics U.K. Limited et. al. v. Competition and Markets Authority

Cases No. 1251-1255/1/12/16
U.K. Competition Appeal Tribunal
Testified on behalf of the Competition and Markets Authority, 2017

7. Federal Trade Commission v. AbbVie Inc. et. al.

Case No. 2:14-cv-5151-HB
Eastern District of Pennsylvania
Testified in deposition and trial on behalf of the Federal Trade Commission, 2017-2018.

8. Steves and Sons, Inc. v. JELD-WEN, Inc.

Case No. 3:16-cv-545-REP
Eastern District of Virginia
Testified in deposition and trial on behalf of Steves and Sons, 2017-2018.

Appendix B. Materials Relied Upon

Discovery

ALT-00004692-738.
ATT-DOJ2R-00383148-154
ATT-DOJ2R-00829143-148.
ATT-DOJ2R-01405945-6019.
ATT-DOJ2R-02608749-761.
ALT-DOJ2R-03166038-073.
ATT-DOJ2R-04540396
ATT-DOJ2R-06226973-7010.
ATT-DOJ2R-07995759-767.
ATT-DOJ2R-08581120-160.
ATT-DOJ2R-13944139.
ATT-LIT-00761143-212.
ATT-LIT-00910685-765.
ATT-LIT-01013182-212.
ATT-LIT-01308221-246.
ATT-LIT-01315433
ATT-LIT-01315938-970.
ATT-LIT-01369067-091.
ATT-LIT-04397170-174.
ATT-LIT-04573233-285.
CHTR-SUBP-001921.
COMATT-BOM-00000067-070.
COMATT-BOM-000001208.
COMATT-BOM-00000309-313.
COMATT-BOM-00000736-737.
COMATT-BOM-00000745-746.
COMATT-BOM-00001169-170.
COMATT-COM-00016422.
COMATT-COM-00016592.
COMATT-GAJ-00000394.
COMATT-GAJ-00000964.
COMATT-GAJ-00003817.
CTL_ATT0000003.
CTL_DOJ0001183-186.
CTL_DOJ0000575.
CTL_DOJ0001183-186.
CTL_DOJ0009238-284.
CTL_DOJ0009515-599.
CTL_DOJ0010262-265.
DISH-ATT-00001464-533.
DOJ-ATTTWX-CABONE-000001.
GOOG-ATTTW-00000001-064.
GOOG-DOJATT-00000020-041.

GOOG-DOJATT-00000116.
GOOG-DOJATT-00002766-808.
GOOG-DOJATT-00002810-814.
GOOG-DOJATT-00003277-377.
HULU-0004859-920.
HULU-001402-467.
TWI-00000215-230.
TWI-01478361
TWI-01507955.
TWI-02043215-216.
TWI-02069272-279.
TWI-02236984.
TWI-02535298-309.
TWI-02624264-275.
TWI-03426329-330.
TWI-03444891-894.
TWI-0609692-791.
TWI-06344586-615.
TWI-06345101-127.
TWI-07022063-064.
TWI-08192643-690.
TWI-LIT-00172581.
TWI-LIT-00488721-834.
TWI-LIT-00502461-462.
TWI-LIT-00526490-491.
TWI-LIT-00535515-545.
TWI-LIT-00539239.
TWI-LIT-00745530.
TWI-LIT-01460078-095.
TWI-LIT-02847562-597.
VIACOM-003039-090.

Depositions

Deposition of Dwayne Benefield, Feb. 19, 2018.
Deposition of Jeffrey Bewkes, May 4, 2017.
Deposition of Madison Bond, Feb. 15, 2018.
Deposition of Breece C. Breland, Jan. 19, 2018.
Deposition of David Christopher, Feb. 14, 2018.
Deposition of Suzanne Fenwick, May 18, 2017.
Deposition of Suzanne Fenwick, Feb. 14, 2018.
Deposition of Marty Hinson, Feb. 13, 2018.
Deposition of Robert Kyncl, May 23, 2017.
Deposition of Robert Kyncl, Feb. 12, 2018.
Deposition of David Levy, Jan. 17, 2018.
Deposition of Roger Lynch, Apr. 20, 2017.
Deposition of John Martin, Jan. 26, 2018.
Deposition of Tom Montemagno, Feb. 6, 2018.
Deposition of Gregory S. Rigdon, Nov. 13, 2017.

Deposition of Gregory S. Rigdon, Feb. 6, 2018.
Deposition of Warren Schlichting, Apr. 19, 2017.
Deposition of Warren Schlichting, Feb. 16, 2018.
Deposition of Michael Schreiber, May 10, 2017.
Deposition of William R. Sejen, Feb. 13, 2018.
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Time Warner Inc., Turner Exhibit 3c_updated.

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Time Warner Inc., Turner Exhibit 3e_updated.

Expert reports

Expert Report of Professor Dennis W. Carlton, Feb. 2, 2018.
Expert Report of Professor Carl Shapiro, Feb. 2, 2018.
Expert Report of Ronald G. Quintero, Feb. 2, 2018.
Rebuttal Report of Susan Athey, Feb. 26, 2018.
Rebuttal Report of Ronald G. Quintero, Feb. 26, 2018.

Appendix C. Professor Carlton's Viewership Metrics and the Importance of Turner Sports Content

Professor Carlton presents a number of figures depicting Turner's share of network viewership and highest-rated telecasts of sports and non-sports content.[221] As I explain in Section 6, these metrics do not adequately capture the significance of Turner Content to MVPDs. While MVPDs and Virtual MVPDs do look at simple measures like viewership for some purposes, understanding the consequences of dropping a set of programming requires a more complex analysis.[222] AT&T and Time Warner both recognize that a network's share of total viewers does not necessarily correlate to the network's importance or value.[223] For example, AT&T's Vincent Torres, who oversees the company's business analytics, could not recall using viewership shares in his work other than as part of a single presentation from 2013.[224]

Professor Carlton's viewership metrics also fail to capture the importance of Turner's sports content to MVPDs. Figure 8 in his report treats a variety of different sports programming as if it is directly comparable. By presenting Turner's share of these telecasts as relatively small, Professor Carlton suggests that Turner is not important because consumers would find any sports telecast an acceptable substitute for any other. He ignores the fact that consumers want access to "one-of-a-kind" sporting events like the NCAA March Madness tournament.[225] Time Warner's internal documents show that executives recognize that popularity of selected sporting events allow them to earn higher subscriber rates.[226]

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[221] *See* Carlton Report, Figure 4–8.

[222] Rigdon Dep., Feb. 6, 2018, at 114:7-20. [redacted]

[223] ATT-DOJ2R-00829143-148, at -146 ("A network with only one or two hit shows can still extract meaningful affiliate fees from distributors."); *See also* Deposition of Breece C. Breland, Jan. 19, 2018, at 88:16-89:11 ("So we—we never bang the drum very loud on ratings because they can change, because the other side of the table will say, Congratulations. I'm glad [you're] No. 10; but when you drop to 20, what does my rate do? So in the distribution world, ratings aren't the biggest driver.").

[224] Torres Dep., at 162:4-163:5 ("Q. So that metric, either percent of viewership, viewership share, is that a metric that you use in other parts of your work? A. I don't recall if we've used that in other parts of our work. Q. So you're not aware of any time using that metric, other than [in this document]? A. Other than here, I don't recall seeing that in other—other work.").

[225] Martin Dep., at 102:1-103:7 ("[W]e believe that having access to the March Madness tournament will provide us a lot of, well, will provide us unique access to a one-of-a-kind tournament" and that the tournament "will be very, very popular through distributors, and it will draw large audiences that we'll be able to monetize."); *see also* Montemagno Dep., at 29:6-31:16. (testifying that Turner's sports programming and live news are not similar to content available on other networks).

[226] *See* TWI-02043215-216 (Internal email from David Levy, President of Turner to Jeff Bewkes, showing ratings for final four games of NCAA tournament and the following statement from David Levy to Jeff Bewkes: "This is why we paid the big bucks….oh and for the sub rates as well...").

One source of Time Warner's market power and its ability to earn relatively high affiliate fee revenues is its access to popular sports content. Professor Carlton downplays Time Warner's sports content, but his analysis ignores the differentiated nature of sports programming.[227] For example, Figure 8 in Professor Carlton's report depicts the number of the 500 highest-rated sports events in 2017 for a number of distinct sports and/or levels of competition. Turner networks had 62 of the top 500 events, or about 12%. First, this is not an insubstantial share of top-rated sports events. Second, and more importantly, the collection of events across various categories of sporting events seems to imply an overly broad market definition that includes, effectively, all sports. This is only meaningful if viewers regard, for example, NASCAR and golf as good substitutes.

More useful measurements can be read from Figure 8 in Professor Carlton's report. Turner had 48% of top-rated NBA games, 24% of top-rated college basketball games, and 34% of top-rated MLB baseball games.[228] Furthermore, Professor Carlton assumes that all events within a particular sport are interchangeable, essentially equating regular season games with playoff and tournament games. Turner carries a "disproportionate amount" of these more important and more desirable sporting events.[229] By ignoring the differentiated nature of sports content, Professor Carlton distorts Turner's significance.

Contrary to Professor Carlton's claims, Turner's high share of significant events within sports gives it substantial market power, which results in its ability to charge high and increasing affiliate fees to MVPDs.[230] Indeed, distributors and programmers recognize that marquee sporting events provide significant bargaining leverage.[231] Turner executives have repeatedly told the Time Warner board of directors that Turner's sports content drives its ability to charge

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[227] *See* Carlton Report, at §III.A.

[228] *See* TWI-02624264-275, at -272 (2016 Turner Upfront Messaging document describing Turner Sports' successes, including the "second most-viewed college basketball game in the history of cable television," the "most-viewed NBA regular season coverage across cable television," and TBS's "most-viewed [MLB] postseason coverage of all time.").

[229] TWI-02535298-309, at -307 (CEO John Martin: "And so if you look at the NBA playoffs, the NCAA championship, and the Major League Baseball playoffs, a disproportionate amount of our sports are either playoff or tournament play, which is must-have.").

[230] TWI-02535298-309, at -307 ("And let's face it, the sports is one of the big reasons why we [Turner] are able to extract the type of affiliate rate increases that we are."); *see also* [redacted] Dep., Feb. 6, 2018, at 126:19-127:8 ([redacted]); *see also* TWI-02069272-279, at -276 ("Premium sports will continue to be unmatched in terms of consumer demand and live viewership, driving on-going value to distributors and advertisers, even as the television landscape evolves.").

[231] TWI-08192643-690, at -670 ("Sports content has been instrumental in helping us achieve our recent affiliate renewals"). Not surprisingly, programmers seek to set affiliate agreement expiration dates near major sports events in order to pressure distributors in bargaining. For example, Turner has sought to align its affiliate fee renewal negotiations with Time Warner Cable to coincide with the NCAA basketball tournament to take advantage of Turner's "ncaa leverage." *See* TWI-01507955. Likewise, in [redacted] Turner extended its affiliate agreement with Charter to [redacted] "lin[ing] Turner up with some of [its] most powerful programming (NBA Playoffs)." *See* TWI-LIT-00539239. Finally, Turner noted that one of the lessons it learned from a blackout of CBS on Time Warner Cable was that "high demand content ([New York] Jets [football] 9/15; Fall Premieres 9/23) drives leverage to reach a deal." *See* TWI-LIT-00535515-545, at -544.

higher prices to distributors.[232] For example, Turner told the board in June 2017 that "[s]ports content has been instrumental in helping us achieve our recent affiliate renewals."[233] In a 2016 long-term planning document, Turner stated that its "investment in distinctive, high quality original and sports programming will enable [it] to maintain [its] leading industry position and achieve [its] targeted affiliate rate increases."[234] Professor Carlton's presentation of Turner's share across all sports is simply irrelevant.

[232] *See* TWI-00000215-230, at -224 (2016 document in which Turner CEO John Martin informed the Time Warner board of directors that "sports rights provide [Turner] with the base of must-watch content that should enable [Turner] to achieve [its] targeted rate increases.").

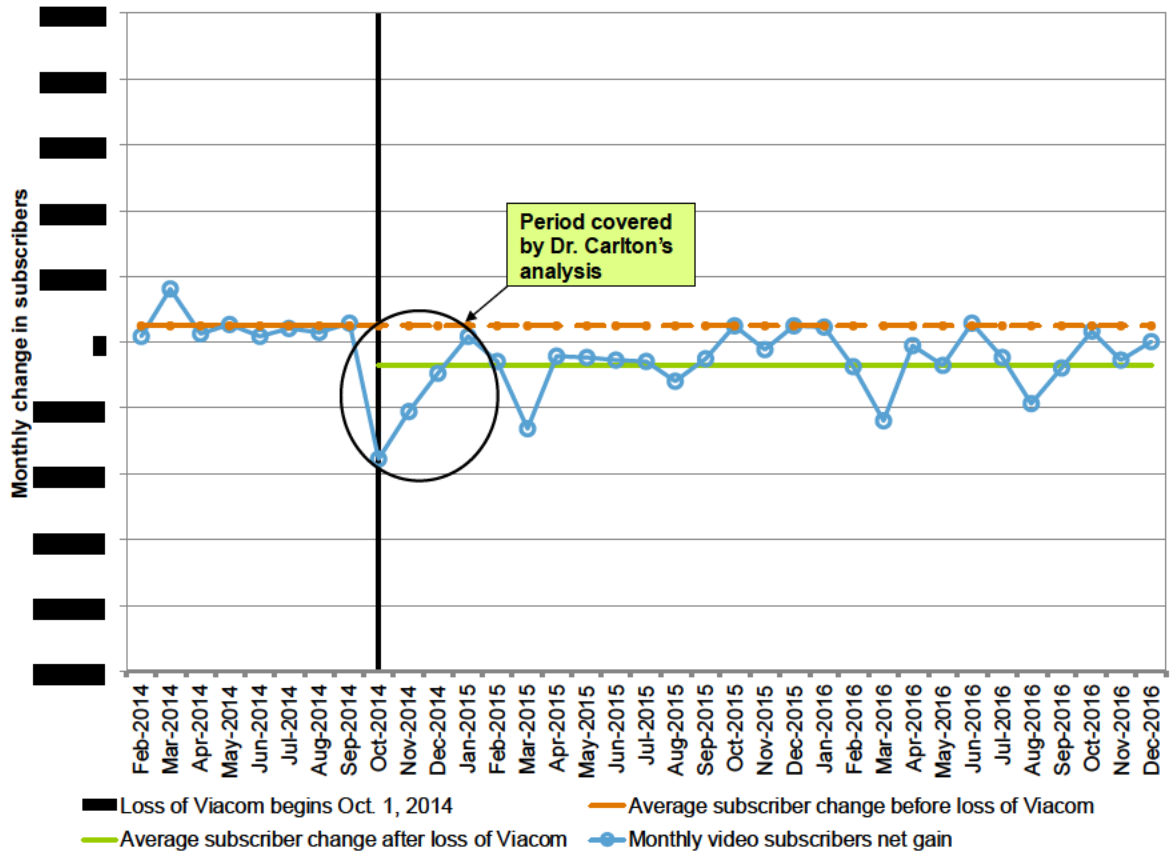
[233] *See* TWI-08192643-690, at -670. (June 2017 Update on Execution of Time Warner's Strategy).

[234] TWI-LIT-00488721-834, at -751 (2016 Long Range Plan).

Appendix D. Change in Suddenlink Subscribership Trend After Loss of Viacom Content

Figure 12 extends the chart displayed by Professor Carlton in his Figure 9. As I do not have access to weekly data, the chart is presented at a monthly level. Professor Carlton did not perform any data analysis, and instead relies on a presentation by Suddenlink to investors in the immediate wake of the Viacom drop. Extending the same methodology utilized in this presentation over the course of the Viacom drop (until the last period of available data) demonstrates that Suddenlink's subscriber loss accelerated after the loss of the Viacom Content. In fact, in 26 out of 27 months following the Viacom drop, Suddenlink's monthly subscriber gain was lower than the average monthly subscriber gain in the period before the Viacom Drop.

Figure 12. Extending Professor Carlton's Suddenlink Analysis in Fig. 9

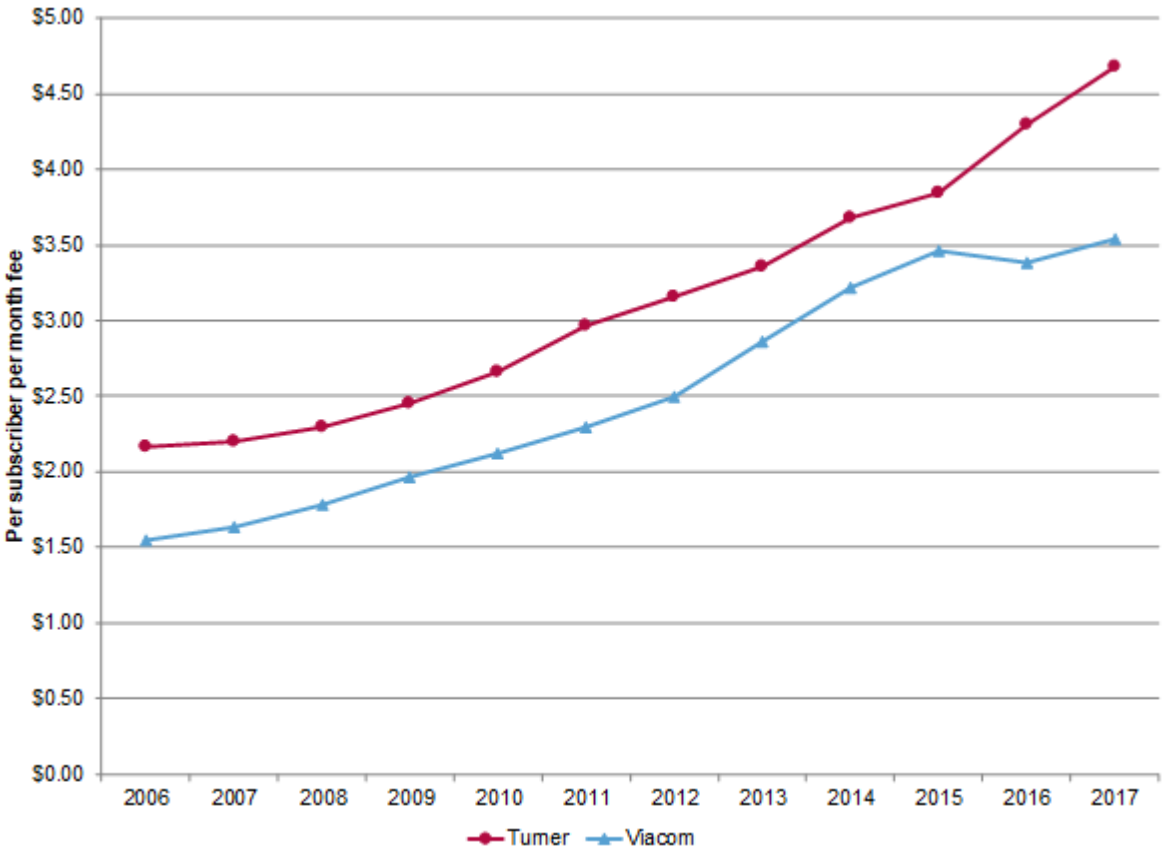


Source: ALT-00010559.

Appendix E. Turner and Viacom's Per-Subscriber Per-Month Fees

In Figure 8 I provide a comparison of Turner and Viacom PSPM fees using the programmers' own data. Figure 13 reproduces this figure using SNL Kagan data, which allows me to extend the analysis over a longer period. While the SNL Kagan's PSPM are [redacted] for both Turner and Viacom than in the programmer data, the patterns are the same. In particular, Figure 13 shows that Turner received about $0.50 more than Viacom in per subscriber per month fees prior to 2016. That gap widens to nearly $1.00 in 2016, and widens even further to more than $1.10 in 2017.

Figure 13. Per-Subscriber Per-Month Fees Paid to Turner and Viacom, 2006 – 2017

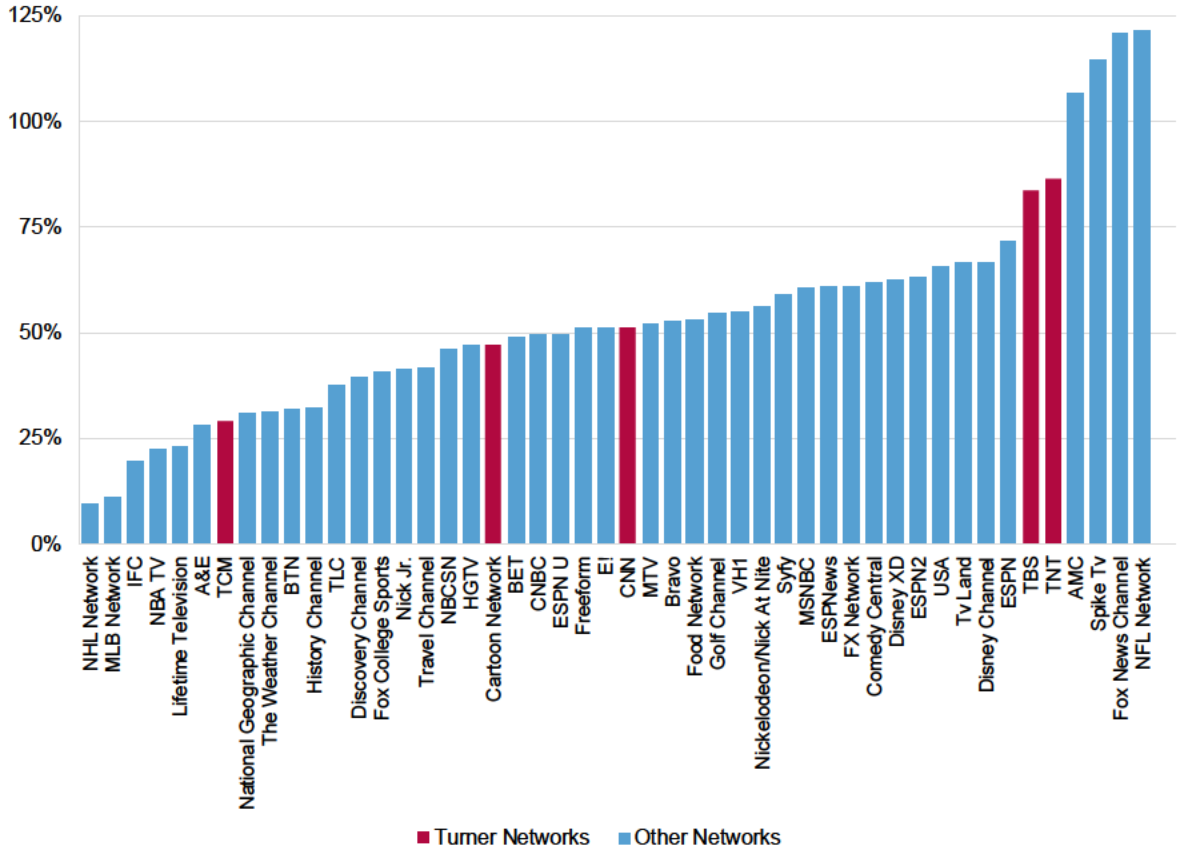


Source: SNL Kagan "TV Network Summary: Financial and Ratings", Carlton Report Backup.

Appendix F. Turner PSPM Fee Growth, SNL Kagan

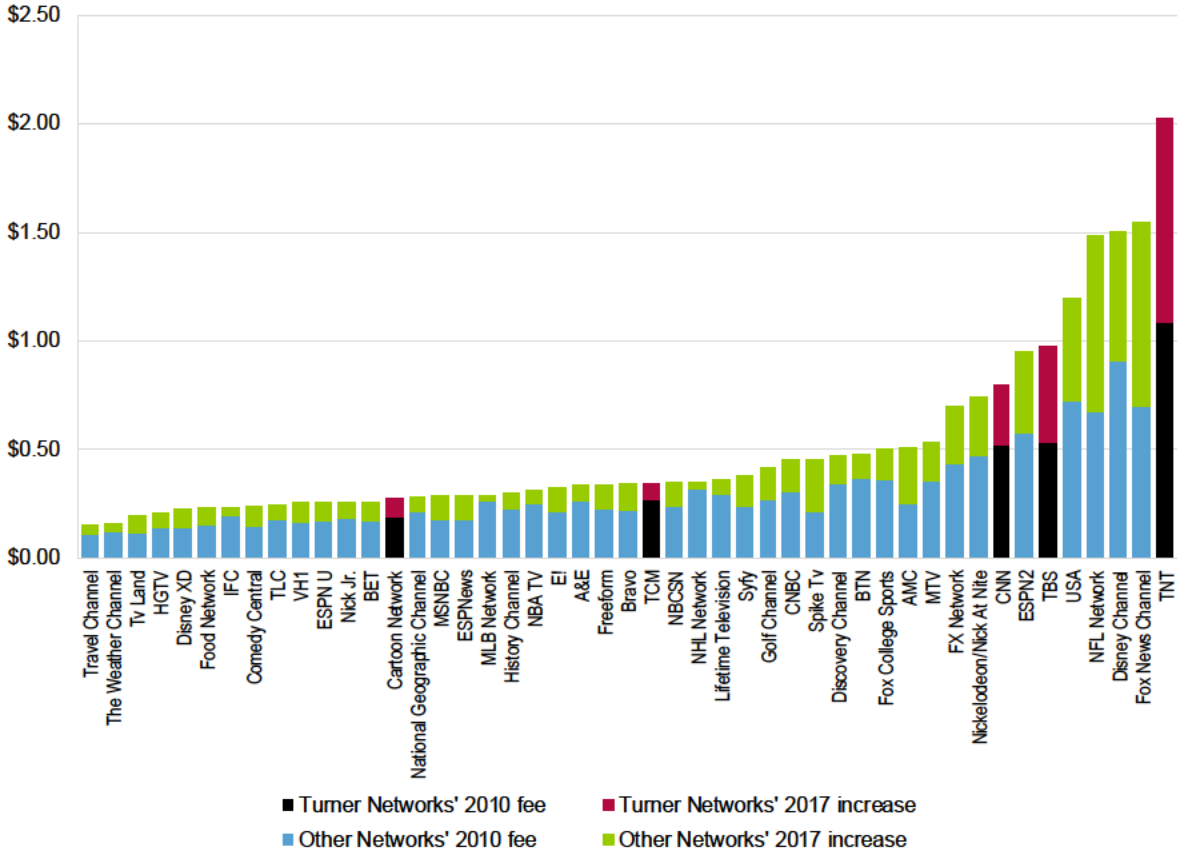
In Section 6.2, I present evidence illustrating Turner's higher affiliate fees relative to other networks. Figure 14 provides similar comparisons based on affiliate fee data from SNL Kagan.

Figure 14 Replication of Carlton Report Figure 11: Percentage Change in Affiliate Fee Between 2010 and 2017 per SNL Kagan



Source: SNL Kagan "TV Network Summary: Financial and Ratings", Carlton Report Backup.
Note: Includes networks in the top 50 that Professor Carlton excludes because of vertical integration status or missing ratings.

Figure 15. Year-Over-Year Change in Affiliate Fee Between 2010 and 2017 per SNL Kagan (Excluding ESPN)



Source: SNL Kagan "TV Network Summary: Financial and Ratings", Carlton Report Backup.
Note: Includes networks in the top 50 that Professor Carlton excludes because of vertical integration status or missing ratings. Excludes ESPN due to scaling issues.

Appendix G. Updated Turner Bargaining Model Merger Effect Estimates

Figure 16. Predicted Turner Monthly Fee Increases for Rival MVPDs (Diverted Subscribers Choose Only DTV's Video Offering)

MVPD	PSPM increase in carriage fee	% increase in PSPM carriage fee	Total change in carriage fee per month ($)
Comcast	$0.89	16.9%	$16,184,944
Charter	$0.96	17.7%	$13,729,271
Dish	$0.81	15.7%	$7,581,998
Verizon	$0.24	4.1%	$993,153
Cox	$0.99	17.6%	$3,019,056
Altice	$0.57	10.0%	$1,746,933
Mediacom	$0.97	16.4%	$540,215
Other MVPDs	$0.64	10.8%	$3,772,380
Sling (vMVPD)	$0.56	11.1%	$1,107,082
Playstation Vue (vMVPD)	$0.55	8.5%	$259,679
Overall	**$0.80**	**14.8%**	**$48,934,712**

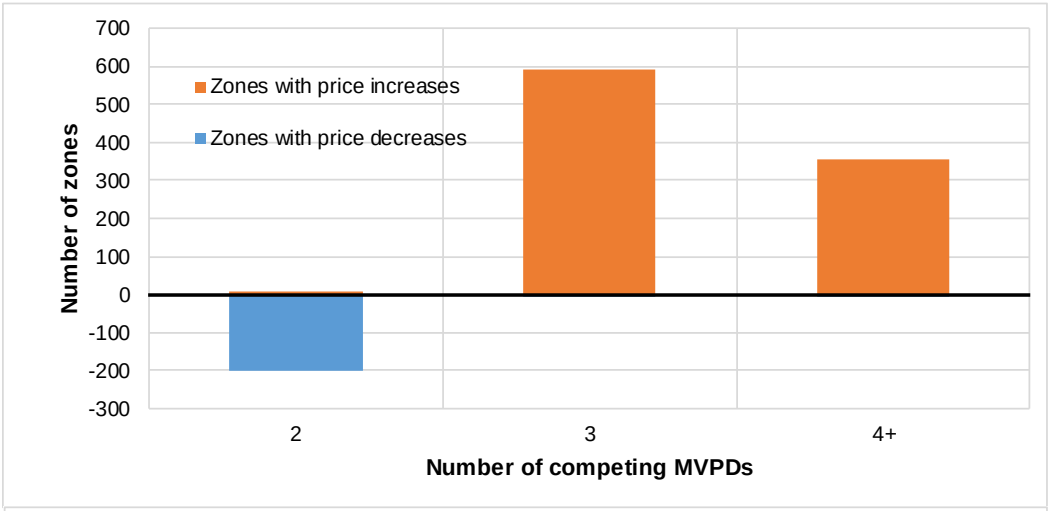
Figure 17. Predicted Increase in Annual Costs to Consumers in Major DMAs Using Merger Simulation Model

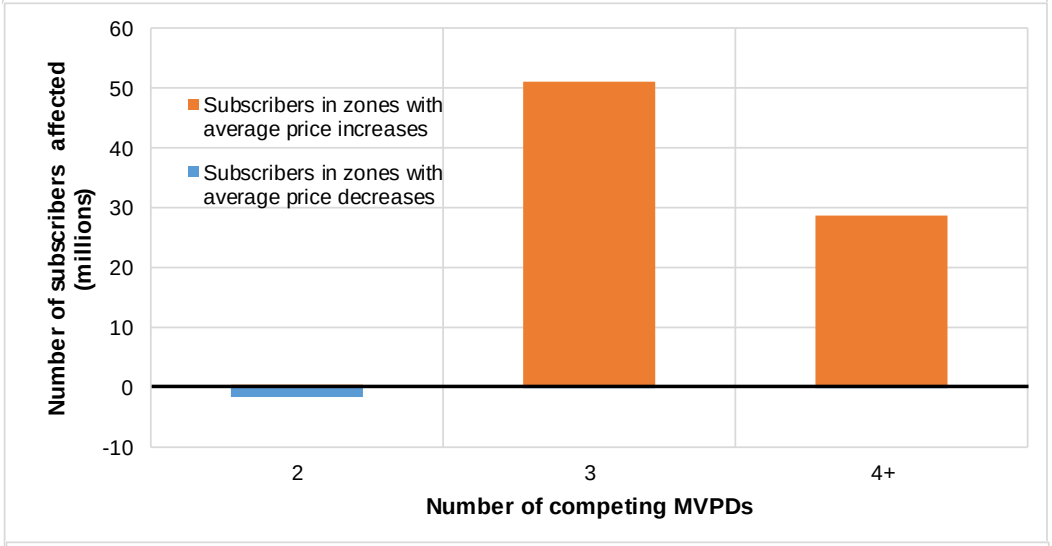
DMA	Turner Subscribers (millions)	Increase in cost to consumers ($, PSPM)	Increase in cost to consumers ($, Monthly)
NEW YORK, NY	5.43	$0.38	$2,067,567
LOS ANGELES, CA	3.32	$0.45	$1,500,233
CHICAGO, IL	2.37	$0.41	$983,411
PHILADELPHIA, PA	2.35	$0.49	$1,147,649
BOSTON, MA (MANCHESTER, NH)	1.94	$0.45	$870,676
WASHINGTON, DC (HAGERSTOWN, MD)	1.88	$0.49	$925,527
ATLANTA, GA	1.76	$0.35	$622,870
SAN FRANCISCO-OAKLAND-SAN JOSE, CA	1.72	$0.38	$655,094
DALLAS-FT. WORTH, TX	1.68	$0.33	$551,880
HOUSTON, TX	1.54	$0.28	$434,151
TAMPA-ST. PETERSBURG (SARASOTA), FL	1.39	$0.67	$936,137
SEATTLE-TACOMA, WA	1.29	$0.50	$637,689
PHOENIX (PRESCOTT), AZ	1.26	$0.45	$571,240
DETROIT, MI	1.26	$0.47	$584,928
MIAMI-FT. LAUDERDALE, FL	1.23	$0.34	$412,346
DENVER, CO	1.15	$0.43	$499,297
ORLANDO-DAYTONA BEACH-MELBOURNE, FL	1.14	$0.50	$571,998
MINNEAPOLIS-ST. PAUL, MN	1.13	$0.47	$529,259
SACRAMENTO-STOCKTON-MODESTO, CA	1.05	$0.40	$416,163
CLEVELAND-AKRON (CANTON), OH	1.02	$0.50	$512,219

Figure 18. Merger Effects by Local Footprint Overlap Zone

Merger effect	Number of zones	% of Zones	% of Turner subscribers	Average price change ($, PSPM)
Price increase	958	82.2%	98.1%	$0.46
No price increase (or a decrease)	207	17.8%	1.9%	($0.05)
Total	1,165	100.0%	100.0%	$0.45

Figure 19. Merger Effects by Local Footprint Overlap Zone and Number of Competing MVPDs





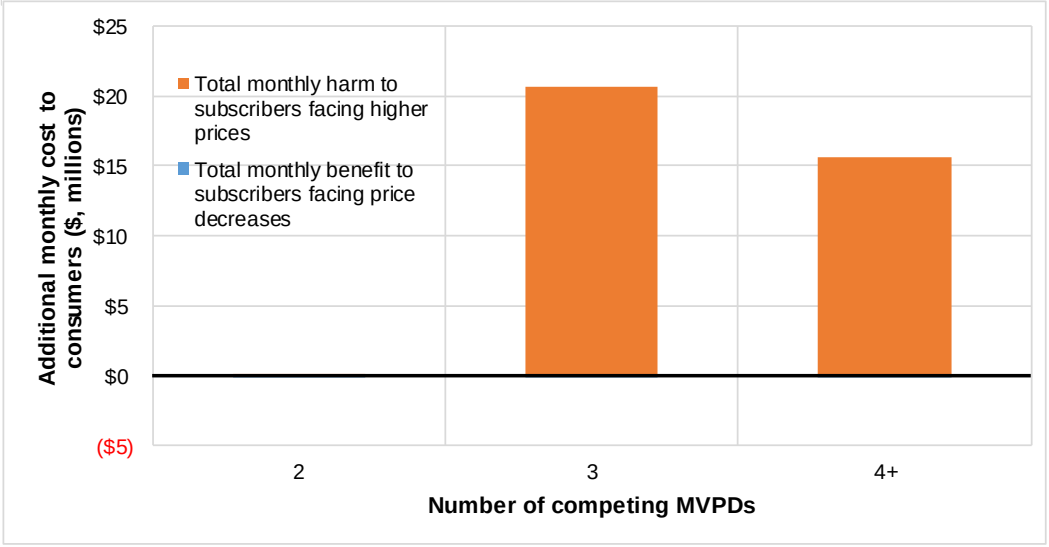


Figure 20. Cost Increases to Rival MVPDs and Net Consumer Effect in Each Zone

Zone	Turner Subscribers (thousands)	DTV Share	Change in Rival MVPD costs per month (thousands)	Net Consumer effect per month (thousands)
NEW YORK, NY - ALTICE - VERIZON	2,269.0	5.1%	$1,065.1	$705.8
LOS ANGELES, CA - CHARTER	2,012.6	41.8%	$1,276.1	$795.0
CHICAGO, IL - COMCAST	1,647.5	28.4%	$1,283.5	$600.7
PHILADELPHIA, PA - COMCAST - VERIZON	1,526.5	5.9%	$1,048.4	$822.7
SAN FRANCISCO-OAKLAND-SAN JOSE, CA - COMCAST	1,423.6	26.0%	$1,156.5	$522.0
HOUSTON, TX - COMCAST	1,228.1	45.2%	$719.0	$355.0
ATLANTA, GA - COMCAST	1,201.1	35.5%	$836.1	$381.8
MIAMI-FT. LAUDERDALE, FL - COMCAST	1,069.7	34.9%	$829.0	$349.3
LOS ANGELES, CA - CHARTER - OTHER	993.6	29.6%	$716.5	$566.9
WASHINGTON, DC (HAGERSTOWN, MD) - COMCAST – VERIZON	938.3	9.6%	$516.8	$461.6
TAMPA-ST. PETERSBURG (SARASOTA), FL - CHARTER – OTHER	928.3	12.1%	$923.7	$670.6
DALLAS-FT. WORTH, TX - CHARTER	914.6	54.1%	$429.2	$264.4
BOSTON, MA (MANCHESTER, NH) - COMCAST	802.7	8.1%	$838.4	$236.7
PHOENIX (PRESCOTT), AZ - COX - OTHER	758.7	33.7%	$541.8	$399.5
WEST PALM BEACH-FT. PIERCE, FL - COMCAST	709.6	39.1%	$599.5	$305.0
NEW YORK, NY - ALTICE	693.0	8.6%	$391.2	$109.8
DENVER, CO - COMCAST	671.5	26.5%	$547.3	$290.4
CHICAGO, IL - COMCAST - OTHER	663.7	25.2%	$514.9	$358.1
ST. LOUIS, MO - CHARTER	654.1	41.2%	$432.9	$264.6
ORLANDO-DAYTONA BEACH-MELBOURNE, FL - CHARTER	619.6	32.3%	$526.8	$283.6
CLEVELAND-AKRON (CANTON), OH - CHARTER	617.6	29.2%	$499.4	$285.9
CHARLOTTE, NC - CHARTER	609.3	31.0%	$473.6	$295.8
SACRAMENTO-STOCKTON-MODESTO, CA - COMCAST	609.2	34.9%	$419.9	$241.5
SEATTLE-TACOMA, WA - COMCAST - OTHER	603.7	13.5%	$558.8	$349.1
NEW YORK, NY - COMCAST - VERIZON	586.0	6.8%	$358.7	$311.1
NEW YORK, NY - CHARTER - VERIZON	582.6	6.5%	$389.8	$336.8
SEATTLE-TACOMA, WA - COMCAST	573.1	16.8%	$531.1	$249.8
DETROIT, MI - COMCAST	557.7	29.5%	$424.7	$202.2
BOSTON, MA (MANCHESTER, NH) - COMCAST - VERIZON	557.5	2.5%	$383.2	$321.3
MILWAUKEE, WI - CHARTER	549.8	33.0%	$422.8	$229.4
DETROIT, MI - COMCAST - OTHER	527.7	21.6%	$407.5	$301.3
BALTIMORE, MD - COMCAST - VERIZON	523.3	9.0%	$326.8	$262.5
RALEIGH-DURHAM (FAYETTEVILLE), NC - CHARTER	517.5	30.6%	$404.5	$248.0
SAN DIEGO, CA - COX	478.8	33.5%	$362.3	$214.3

Zone	Turner Subscribers (thousands)	DTV Share	Change in Rival MVPD costs per month (thousands)	Net Consumer effect per month (thousands)
CINCINNATI, OH - CHARTER - OTHER	475.1	19.2%	$395.2	$314.9
JACKSONVILLE, FL - COMCAST	467.3	33.1%	$337.6	$160.1
DALLAS-FT. WORTH, TX - CHARTER - OTHER	455.0	30.5%	$299.7	$256.7
SAN ANTONIO, TX - CHARTER	444.3	40.4%	$289.4	$180.1
INDIANAPOLIS, IN - COMCAST	440.5	34.4%	$306.1	$156.8
HARTFORD & NEW HAVEN, CT - COMCAST - OTHER	392.7	8.9%	$383.3	$237.6
MINNEAPOLIS-ST. PAUL, MN - COMCAST	389.6	20.9%	$343.3	$145.7
NASHVILLE, TN - COMCAST	387.6	31.7%	$286.3	$138.3
PITTSBURGH, PA - COMCAST - VERIZON	379.6	6.4%	$258.4	$205.9
GREENVILLE-SPARTANBURG, SC-ASHEVILLE, NC-ANDERSON, SC - CHARTER	371.0	35.2%	$272.6	$173.8
PORTLAND, OR - COMCAST - OTHER	367.2	12.3%	$349.5	$221.2
PHILADELPHIA, PA - COMCAST	364.7	10.0%	$370.7	$116.1
NEW YORK, NY - CHARTER - OTHER	353.2	2.8%	$402.2	$203.4
SALT LAKE CITY, UT - COMCAST	346.5	29.9%	$263.3	$163.8
ATLANTA, GA - CHARTER	344.8	38.9%	$234.3	$156.0
COLUMBUS, OH - CHARTER - OTHER	338.3	32.6%	$237.7	$174.2
BIRMINGHAM (ANNISTON AND TUSCALOOSA), AL - CHARTER	337.8	42.7%	$215.0	$141.6
LOUISVILLE, KY - CHARTER	336.5	31.4%	$261.2	$153.8
FRESNO-VISALIA, CA - COMCAST	319.6	40.2%	$197.8	$114.8
ORLANDO-DAYTONA BEACH-MELBOURNE, FL - CHARTER - OTHER	317.3	23.2%	$282.2	$190.6
MEMPHIS, TN - COMCAST	315.1	41.9%	$190.9	$97.7
DENVER, CO - COMCAST - OTHER	313.5	23.1%	$260.0	$155.7
GREENSBORO-HIGH POINT-WINSTON SALEM, NC - CHARTER	311.1	26.9%	$260.1	$151.4
WASHINGTON, DC (HAGERSTOWN, MD) - COX - VERIZON	306.1	7.8%	$162.8	$167.6
NORFOLK-PORTSMOUTH-NEWPORT NEWS, VA - COX - VERIZON	305.7	10.0%	$213.4	$165.3
LAS VEGAS, NV - COX - OTHER	304.4	30.4%	$228.7	$169.0
BUFFALO, NY - CHARTER	300.2	23.5%	$265.1	$150.6
CLEVELAND-AKRON (CANTON), OH - CHARTER - OTHER	300.2	26.4%	$213.5	$181.8
KANSAS CITY, MO - CHARTER - OTHER	293.8	25.5%	$218.6	$180.5
WASHINGTON, DC (HAGERSTOWN, MD) - COMCAST	293.0	23.5%	$243.6	$126.7
HARRISBURG-LANCASTER-LEBANON-YORK, PA - COMCAST	292.5	18.5%	$262.1	$135.3
DAYTON, OH - CHARTER	288.4	30.6%	$227.7	$130.4
ROCHESTER, NY - CHARTER	279.8	15.4%	$279.5	$142.7
FT. MYERS-NAPLES, FL - COMCAST - OTHER	277.2	21.3%	$234.5	$174.4
PROVIDENCE, RI-NEW BEDFORD, MA - COX - VERIZON	275.3	4.0%	$186.3	$168.1
OKLAHOMA CITY, OK - COX	274.7	32.9%	$208.2	$131.3
AUSTIN, TX - CHARTER	273.9	40.9%	$175.5	$111.2

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ALBUQUERQUE-SANTA FE, NM - COMCAST	271.9	36.6%	$182.6	$109.8
PORTLAND, OR - COMCAST	269.8	19.4%	$240.4	$138.4
ALBANY-SCHENECTADY-TROY, NY - CHARTER	266.0	13.4%	$274.7	$126.4
NEW YORK, NY - COMCAST	263.9	14.9%	$251.4	$84.6
NEW YORK, NY - CHARTER	255.8	10.3%	$275.1	$111.1
GRAND RAPIDS-KALAMAZOO-BATTLE CREEK, MI - COMCAST	255.5	25.2%	$208.4	$111.9
COLUMBUS, OH - CHARTER	255.2	31.6%	$194.8	$124.2
RICHMOND-PETERSBURG, VA - COMCAST - VERIZON	251.3	7.2%	$147.6	$133.1
PITTSBURGH, PA - COMCAST	246.5	18.3%	$222.4	$118.8
MINNEAPOLIS-ST. PAUL, MN - COMCAST - OTHER	244.5	18.3%	$217.7	$126.0
PORTLAND-AUBURN, ME - CHARTER	243.8	14.7%	$245.7	$126.9
HONOLULU, HI - CHARTER - OTHER	242.1	3.8%	$267.6	$151.3
PALM SPRINGS, CA - CHARTER - OTHER	236.0	26.8%	$176.3	$142.1
GREEN BAY-APPLETON, WI - CHARTER	234.7	28.6%	$190.6	$120.1
LEXINGTON, KY - CHARTER	232.8	23.7%	$196.9	$140.1
LOS ANGELES, CA - COX	231.8	29.1%	$189.9	$105.7
NEW ORLEANS, LA - COX	227.2	33.9%	$170.9	$101.1
SACRAMENTO-STOCKTON-MODESTO, CA - COMCAST - OTHER	227.0	28.2%	$168.0	$116.0
SAN FRANCISCO-OAKLAND-SAN JOSE, CA - COMCAST - OTHER	226.2	22.5%	$185.7	$111.7
SAN DIEGO, CA - CHARTER	225.8	36.4%	$163.1	$84.3
TAMPA-ST. PETERSBURG (SARASOTA), FL - CHARTER	219.8	20.0%	$217.3	$114.6
PHOENIX (PRESCOTT), AZ - COX	215.1	32.8%	$160.4	$107.3
BOSTON, MA (MANCHESTER, NH) - COMCAST - OTHER	208.8	6.1%	$209.2	$127.0
FT. MYERS-NAPLES, FL - COMCAST	204.1	22.8%	$193.9	$91.9
WILKES BARRE-SCRANTON-HAZLETON, PA - NOCABLE - OTHER	201.4	21.9%	$119.6	$79.7
OMAHA, NE - COX - OTHER	197.8	14.8%	$190.7	$125.8
HARLINGEN-WESLACO-BROWNSVILLE-MCALLEN, TX - CHARTER	194.8	30.6%	$150.7	$98.3
TULSA, OK - COX	194.7	28.4%	$156.9	$106.2
FLINT-SAGINAW-BAY CITY, MI - CHARTER	194.3	21.1%	$177.7	$114.3
WICHITA-HUTCHINSON, KS PLUS - COX	192.2	26.0%	$161.1	$107.2
RALEIGH-DURHAM (FAYETTEVILLE), NC - CHARTER - OTHER	186.7	25.1%	$151.9	$110.3
SYRACUSE, NY - CHARTER	185.3	14.3%	$187.2	$97.8
DES MOINES-AMES, IA - MEDIACOM	184.5	40.6%	$105.4	$81.4
TAMPA-ST. PETERSBURG (SARASOTA), FL - COMCAST - OTHER	183.8	14.8%	$171.7	$129.3
GRAND RAPIDS-KALAMAZOO-BATTLE CREEK, MI - CHARTER	173.8	24.3%	$151.7	$97.6
PITTSBURGH, PA - COMCAST - OTHER	169.3	18.7%	$136.6	$108.9

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CHARLOTTE, NC - CHARTER - OTHER	168.1	33.6%	$108.1	$91.0
LAS VEGAS, NV - COX	167.7	31.2%	$130.4	$82.8
FT. SMITH-FAYETTEVILLE-SPRINGDALE-ROGERS, AR - COX	164.0	33.1%	$120.6	$86.1
TUCSON (SIERRA VISTA), AZ - COX	163.0	29.5%	$127.8	$89.8
GREENSBORO-HIGH POINT-WINSTON SALEM, NC - CHARTER - OTHER	162.8	25.5%	$128.6	$98.7
SOUTH BEND-ELKHART, IN - COMCAST	162.4	28.0%	$124.6	$74.7
WASHINGTON, DC (HAGERSTOWN, MD) - COMCAST - VERIZON - OTHER	161.8	8.5%	$117.0	$86.3
PALM SPRINGS, CA - CHARTER	161.0	31.2%	$125.1	$76.9
COLUMBIA, SC - CHARTER	157.4	34.2%	$117.1	$66.0
TRAVERSE CITY-CADILLAC, MI - CHARTER	156.9	20.4%	$144.9	$93.6
MYRTLE BEACH-FLORENCE, SC - CHARTER - OTHER	156.5	10.4%	$147.5	$115.7
RENO, NV - CHARTER	156.0	37.0%	$110.8	$73.0
FARGO-VALLEY CITY, ND - NOCABLE - OTHER	155.1	19.6%	$96.9	$70.9
NEW YORK, NY - CHARTER - VERIZON - OTHER	155.0	7.1%	$140.4	$90.3
HARRISBURG-LANCASTER-LEBANON-YORK, PA - COMCAST - VERIZON	152.4	9.5%	$106.6	$76.1
SIOUX FALLS(MITCHELL), SD - NOCABLE - OTHER	151.5	19.3%	$94.1	$66.7
MINNEAPOLIS-ST. PAUL, MN - NOCABLE - OTHER	149.1	32.2%	$81.1	$54.8
NEW YORK, NY - ALTICE - OTHER	147.8	6.8%	$87.5	$55.6
MADISON, WI - CHARTER	146.8	25.4%	$127.2	$77.5
BOSTON, MA (MANCHESTER, NH) - COMCAST - VERIZON - OTHER	144.7	2.1%	$102.4	$88.6
BATON ROUGE, LA - COX	142.2	30.3%	$114.4	$63.2
AUSTIN, TX - CHARTER - OTHER	142.0	29.1%	$109.2	$75.4
NASHVILLE, TN - CHARTER	141.7	38.6%	$93.8	$66.5
BOISE, ID - NOCABLE - OTHER	141.5	49.8%	$54.7	$23.1
NEW ORLEANS, LA - CHARTER	140.2	43.1%	$87.7	$54.2
BAKERSFIELD, CA - CHARTER	140.2	45.5%	$83.5	$56.1
SPRINGFIELD-HOLYOKE, MA - COMCAST	139.2	9.1%	$144.0	$35.4
COLORADO SPRINGS-PUEBLO, CO - COMCAST - OTHER	136.5	22.9%	$110.6	$70.6
EL PASO, TX (LAS CRUCES, NM) - CHARTER	136.1	41.2%	$86.5	$56.2
BUFFALO, NY - CHARTER - VERIZON	135.7	8.7%	$87.3	$73.7
LITTLE ROCK-PINE BLUFF, AR - NOCABLE - OTHER	135.5	35.3%	$70.5	$45.1
INDIANAPOLIS, IN - COMCAST - OTHER	135.0	30.0%	$93.3	$70.0
GREENVILLE-SPARTANBURG, SC-ASHEVILLE, NC-ANDERSON, SC - NOCABLE - OTHER	134.8	45.5%	$57.2	$29.7
BALTIMORE, MD - COMCAST - VERIZON - OTHER	134.6	7.0%	$68.3	$71.2
BALTIMORE, MD - COMCAST	134.0	24.2%	$111.6	$48.3
DETROIT, MI - CHARTER	132.7	30.1%	$106.0	$62.7

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MOBILE, AL-PENSACOLA (FT. WALTON BEACH), FL - MEDIACOM	132.7	51.6%	$59.5	$40.1
BOSTON, MA (MANCHESTER, NH) - CHARTER	132.7	11.9%	$141.3	$55.8
KNOXVILLE, TN - COMCAST	132.1	29.8%	$100.2	$56.5
YAKIMA-PASCO-RICHLAND-KENNEWICK, WA - CHARTER	132.0	26.7%	$106.8	$78.6
CHAMPAIGN & SPRINGFIELD-DECATUR, IL - COMCAST	130.7	23.8%	$110.1	$55.5
MOBILE, AL-PENSACOLA (FT. WALTON BEACH), FL - COX	130.2	24.9%	$113.6	$63.8
PHILADELPHIA, PA - NOCABLE - OTHER	129.3	20.2%	$76.4	$40.2
RICHMOND-PETERSBURG, VA - COMCAST	128.5	34.9%	$86.8	$50.3
MINNEAPOLIS-ST. PAUL, MN - CHARTER	127.1	24.1%	$110.1	$73.6
SAN ANTONIO, TX - CHARTER - OTHER	125.1	32.0%	$86.2	$68.8
DALLAS-FT. WORTH, TX - ALTICE	124.6	47.7%	$47.2	$14.7
MONTEREY-SALINAS, CA - COMCAST	124.5	27.3%	$98.5	$51.2
JACKSON, MS - COMCAST	124.3	42.3%	$75.9	$38.1
INDIANAPOLIS, IN - CHARTER	124.2	38.4%	$88.2	$54.7
HONOLULU, HI - CHARTER	123.0	9.9%	$132.8	$59.3
SAVANNAH, GA - COMCAST	122.3	24.8%	$101.0	$54.7
DAVENPORT, IA-ROCK ISLAND-MOLINE, IL - MEDIACOM	122.2	32.8%	$80.6	$63.8
SALT LAKE CITY, UT - COMCAST - OTHER	120.5	25.7%	$95.0	$68.9
PHILADELPHIA, PA - COMCAST - OTHER	120.2	17.7%	$100.8	$72.3
MIAMI-FT. LAUDERDALE, FL - COMCAST - OTHER	118.9	34.8%	$73.9	$59.1
SALISBURY, MD - COMCAST	118.7	17.4%	$110.2	$45.4
PHOENIX (PRESCOTT), AZ - NOCABLE - OTHER	117.7	39.5%	$55.5	$33.9
CEDAR RAPIDS-WATERLOO-IOWA CITY & DUBUQUE, IA - MEDIACOM - OTHER	117.3	22.3%	$82.3	$75.6
PROVIDENCE, RI-NEW BEDFORD, MA - COMCAST	115.1	7.5%	$121.0	$35.8
LANSING, MI - COMCAST	114.2	26.3%	$93.6	$47.0
MINOT-BISMARCK-DICKINSON (WILLISTON), ND - NOCABLE - OTHER	113.3	16.4%	$73.8	$54.9
HARTFORD & NEW HAVEN, CT - COX - OTHER	112.9	9.3%	$115.4	$75.6
MINNEAPOLIS-ST. PAUL, MN - CHARTER - OTHER	112.5	21.0%	$92.4	$77.3
ALBUQUERQUE-SANTA FE, NM - NOCABLE - OTHER	111.7	34.9%	$57.7	$37.8
CHARLESTON-HUNTINGTON, WV - ALTICE	110.4	22.4%	$57.3	$32.9
PITTSBURGH, PA - NOCABLE - OTHER	109.0	21.4%	$65.3	$43.9
KNOXVILLE, TN - CHARTER	108.4	31.1%	$84.0	$56.7
WILKES BARRE-SCRANTON-HAZLETON, PA - COMCAST	107.6	19.5%	$94.9	$48.5
GREENVILLE-NEW BERN-WASHINGTON, NC - CHARTER	106.8	22.1%	$96.6	$54.5
BURLINGTON, VT-PLATTSBURGH, NY - COMCAST	106.2	15.8%	$98.4	$57.8
PHILADELPHIA, PA - COMCAST - VERIZON - OTHER	105.4	6.6%	$67.8	$61.8
SPOKANE, WA - COMCAST	104.6	18.8%	$93.5	$48.7

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TYLER-LONGVIEW(LUFKIN & NACOGDOCHES), TX - ALTICE	104.6	32.5%	$49.8	$27.3
NORFOLK-PORTSMOUTH-NEWPORT NEWS, VA - COX	103.9	17.0%	$102.1	$51.4
AUGUSTA, GA-AIKEN, SC - COMCAST - OTHER	103.6	24.8%	$76.6	$59.1
SYRACUSE, NY - CHARTER - VERIZON	103.2	5.5%	$79.1	$58.1
ROANOKE-LYNCHBURG, VA - COMCAST	103.1	33.0%	$71.3	$44.8
ROCKFORD, IL - COMCAST	102.6	18.1%	$91.8	$53.3
ALBANY-SCHENECTADY-TROY, NY - CHARTER - VERIZON	102.2	6.0%	$94.2	$49.4
TOLEDO, OH - CHARTER	102.1	25.2%	$85.8	$56.9
CHATTANOOGA, TN - COMCAST - OTHER	101.8	12.1%	$84.4	$71.9
LINCOLN & HASTINGS-KEARNEY, NE - CHARTER	101.8	14.5%	$99.5	$67.8
TOLEDO, OH - CHARTER - OTHER	100.9	24.6%	$67.9	$60.3
CHARLESTON, SC - COMCAST - OTHER	100.6	30.7%	$71.9	$45.7
SALT LAKE CITY, UT - NOCABLE - OTHER	98.0	36.5%	$50.6	$30.3
WILKES BARRE-SCRANTON-HAZLETON, PA - COMCAST - OTHER	97.9	23.5%	$69.5	$58.4
PHOENIX (PRESCOTT), AZ - ALTICE	97.6	34.6%	$43.9	$21.8
TUCSON (SIERRA VISTA), AZ - COMCAST	97.6	27.9%	$75.9	$41.3
NORFOLK-PORTSMOUTH-NEWPORT NEWS, VA - CHARTER	97.4	30.2%	$77.2	$51.0
OKLAHOMA CITY, OK - NOCABLE - OTHER	97.2	42.8%	$44.9	$22.1
ORLANDO-DAYTONA BEACH-MELBOURNE, FL - COMCAST - OTHER	94.6	27.4%	$70.8	$52.0
NASHVILLE, TN - CHARTER - OTHER	93.9	25.3%	$70.1	$59.6
TULSA, OK - NOCABLE - OTHER	93.7	39.5%	$46.0	$25.3
JACKSON, MS - NOCABLE - OTHER	93.0	48.1%	$38.7	$14.5
WASHINGTON, DC (HAGERSTOWN, MD) - COMCAST - OTHER	92.0	22.4%	$66.7	$56.0
CORPUS CHRISTI, TX - CHARTER - OTHER	91.8	30.3%	$64.9	$51.8
CINCINNATI, OH - CHARTER	91.5	32.2%	$67.8	$46.8
BEAUMONT-PORT ARTHUR, TX - CHARTER	91.4	25.6%	$76.3	$51.2
JOHNSTOWN-ALTOONA-STATE COLLEGE, PA - COMCAST - OTHER	91.4	19.7%	$72.6	$59.4
TALLAHASSEE, FL-THOMASVILLE, GA - COMCAST - OTHER	90.8	17.7%	$84.4	$52.6
GREENVILLE-SPARTANBURG, SC-ASHEVILLE, NC-ANDERSON, SC - CHARTER - OTHER	89.2	39.1%	$50.6	$41.0
MYRTLE BEACH-FLORENCE, SC - CHARTER	89.1	27.3%	$72.3	$48.8
ANCHORAGE, AK - NOCABLE - OTHER	89.1	15.4%	$57.2	$37.1
HARRISBURG-LANCASTER-LEBANON-YORK, PA - COMCAST - OTHER	87.9	20.0%	$67.6	$55.7
EUGENE, OR - COMCAST	87.8	11.1%	$87.9	$48.7
HOUSTON, TX - ALTICE	86.7	42.0%	$35.1	$14.6
FLINT-SAGINAW-BAY CITY, MI - COMCAST	86.7	23.4%	$72.2	$36.1
COLUMBIA, SC - CHARTER - OTHER	85.8	27.7%	$64.7	$51.1

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WACO-TEMPLE-BRYAN, TX - CHARTER	85.7	33.2%	$63.4	$41.4
LITTLE ROCK-PINE BLUFF, AR - COMCAST	85.6	43.1%	$50.4	$25.7
SIOUX CITY, IA - NOCABLE - OTHER	85.5	20.4%	$55.0	$41.9
DALLAS-FT. WORTH, TX - NOCABLE	85.3	51.9%	$34.8	($5.2)
MONTGOMERY-SELMA, AL - CHARTER - OTHER	85.0	15.7%	$75.4	$61.1
WICHITA-HUTCHINSON, KS PLUS - NOCABLE - OTHER	84.8	22.7%	$52.1	$39.0
WILMINGTON, NC - CHARTER	84.4	22.3%	$77.3	$37.7
LA CROSSE-EAU CLAIRE, WI - CHARTER - OTHER	84.0	16.7%	$73.1	$60.1
COLUMBUS-TUPELO-WEST POINT-HOUSTON, MS - NOCABLE - OTHER	83.7	46.1%	$35.0	$17.8
EVANSVILLE, IN - CHARTER	83.0	32.5%	$60.3	$43.3
MEMPHIS, TN - NOCABLE - OTHER	82.9	44.3%	$34.9	$19.4
MEDFORD-KLAMATH FALLS, OR - CHARTER	82.9	26.2%	$69.7	$49.0
SACRAMENTO-STOCKTON-MODESTO, CA - NOCABLE - OTHER	81.9	47.4%	$32.4	$16.4
PEORIA-BLOOMINGTON, IL - COMCAST	81.7	19.4%	$73.4	$36.0
SHREVEPORT, LA - NOCABLE - OTHER	81.6	42.0%	$38.2	$19.6
HOUSTON, TX - COMCAST - OTHER	80.9	35.2%	$51.8	$36.4
BILOXI-GULFPORT, MS - NOCABLE - OTHER	80.7	44.9%	$32.2	$15.8
ROANOKE-LYNCHBURG, VA - COMCAST - OTHER	80.4	35.7%	$49.2	$36.9
FT. WAYNE, IN - COMCAST - OTHER	80.1	16.4%	$67.0	$52.8
KNOXVILLE, TN - COMCAST - OTHER	79.1	26.4%	$60.3	$39.8
GAINESVILLE, FL - COX	77.8	10.7%	$82.6	$44.2
JOHNSTOWN-ALTOONA-STATE COLLEGE, PA - NOCABLE - OTHER	77.6	21.2%	$47.4	$34.3
SHREVEPORT, LA - ALTICE	77.6	39.6%	$32.6	$14.8
TRI-CITIES, TN-VA - COMCAST	77.3	24.6%	$62.5	$36.1
YOUNGSTOWN, OH - CHARTER	76.9	22.1%	$69.4	$39.0
CHATTANOOGA, TN - CHARTER - OTHER	76.2	20.6%	$61.4	$52.1
AMARILLO, TX - ALTICE	75.7	23.5%	$40.0	$25.0
WASHINGTON, DC (HAGERSTOWN, MD) - NOCABLE - OTHER	75.7	35.0%	$38.1	$25.1
MOBILE, AL-PENSACOLA (FT. WALTON BEACH), FL - COMCAST	74.2	40.7%	$46.7	$22.2
HUNTSVILLE-DECATUR (FLORENCE), AL - COMCAST - OTHER	74.1	26.8%	$53.3	$41.9
ATLANTA, GA - COMCAST - OTHER	74.0	34.3%	$45.1	$34.7
KANSAS CITY, MO - COMCAST	74.0	35.8%	$50.2	$26.5
SPRINGFIELD, MO - MEDIACOM	73.7	46.0%	$37.5	$27.0
BURLINGTON, VT-PLATTSBURGH, NY - CHARTER	73.7	20.0%	$67.6	$44.2
LITTLE ROCK-PINE BLUFF, AR - ALTICE	73.7	30.5%	$37.4	$22.0
BANGOR, ME - CHARTER	73.7	23.5%	$63.7	$41.8

Zone	Turner Subscribers (thousands)	DTV Share	Change in Rival MVPD costs per month (thousands)	Net Consumer effect per month (thousands)
SANTA BARBARA-SANTA MARIA-SAN LUIS OBISPO, CA - CHARTER	72.2	33.6%	$53.5	$36.6
NASHVILLE, TN - COMCAST - OTHER	72.0	22.9%	$52.9	$43.7
BIRMINGHAM (ANNISTON AND TUSCALOOSA), AL - NOCABLE - OTHER	71.0	43.7%	$30.7	$17.2
DALLAS-FT. WORTH, TX - NOCABLE - OTHER	70.8	41.7%	$33.2	$17.6
SACRAMENTO-STOCKTON-MODESTO, CA - CHARTER	70.5	40.2%	$45.4	$31.9
ALBANY, GA - MEDIACOM	70.5	27.9%	$49.3	$38.6
CHARLESTON, SC - CHARTER - OTHER	69.7	27.8%	$53.3	$40.3
EVANSVILLE, IN - CHARTER - OTHER	69.7	21.5%	$54.5	$45.8
COLORADO SPRINGS-PUEBLO, CO - COMCAST	69.1	34.8%	$48.1	$28.0
ORLANDO-DAYTONA BEACH-MELBOURNE, FL - COMCAST	68.9	28.6%	$53.7	$26.6
BATON ROUGE, LA - COX - OTHER	68.1	31.7%	$45.2	$38.8
SHERMAN, TX-ADA, OK - NOCABLE - OTHER	67.7	37.5%	$34.3	$20.3
KANSAS CITY, MO - NOCABLE - OTHER	67.6	38.1%	$32.8	$20.6
PHILADELPHIA, PA - NOCABLE - VERIZON - OTHER	67.6	13.2%	$33.7	$23.8
NEW YORK, NY - COMCAST - OTHER	67.2	16.7%	$56.4	$41.4
CEDAR RAPIDS-WATERLOO-IOWA CITY & DUBUQUE, IA - MEDIACOM	67.0	27.4%	$48.3	$38.9
LUBBOCK, TX - ALTICE - OTHER	67.0	35.5%	$28.3	$16.6
BINGHAMTON, NY - CHARTER	67.0	15.8%	$66.4	$35.1
HUNTSVILLE-DECATUR (FLORENCE), AL - CHARTER	66.8	35.8%	$46.5	$33.0
ATLANTA, GA - NOCABLE - OTHER	66.8	32.0%	$37.2	$24.1
SEATTLE-TACOMA, WA - NOCABLE - OTHER	66.6	32.8%	$35.0	$23.7
CHICO-REDDING, CA - COMCAST	66.2	23.7%	$53.8	$35.2
YUMA, AZ-EL CENTRO, CA - CHARTER	64.9	32.4%	$48.1	$32.9
WATERTOWN, NY - CHARTER	64.1	18.9%	$60.7	$33.5
LEXINGTON, KY - CHARTER - OTHER	63.8	22.5%	$45.6	$39.9
TOLEDO, OH - NOCABLE - OTHER	63.7	28.2%	$33.3	$16.2
SHREVEPORT, LA - COMCAST	63.6	41.2%	$39.7	$20.4
SPRINGFIELD, MO - NOCABLE - OTHER	63.4	36.2%	$34.0	$17.0
JOHNSTOWN-ALTOONA-STATE COLLEGE, PA - COMCAST	63.3	18.3%	$57.7	$36.7
LAFAYETTE, LA - COX	63.1	37.5%	$43.4	$29.2
WACO-TEMPLE-BRYAN, TX - ALTICE	62.9	34.0%	$29.2	$15.3
OKLAHOMA CITY, OK - ALTICE	62.6	35.2%	$28.7	$15.3
ERIE, PA - CHARTER	62.5	20.2%	$57.8	$33.6
ST. LOUIS, MO - NOCABLE - OTHER	62.5	37.3%	$31.4	$19.3
HARTFORD & NEW HAVEN, CT - COMCAST	62.5	10.3%	$63.2	$24.6
PADUCAH, KY-CAPE GIRARDEAU, MO-HARRISBURG, IL - CHARTER	62.1	29.3%	$48.7	$35.3

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ROANOKE-LYNCHBURG, VA - NOCABLE - OTHER	61.9	39.1%	$30.1	$17.8
BIRMINGHAM (ANNISTON AND TUSCALOOSA), AL - COMCAST	61.7	35.2%	$43.5	$22.5
CHARLESTON-HUNTINGTON, WV - CHARTER	61.7	26.1%	$50.1	$35.8
LAFAYETTE, LA - COX - OTHER	61.0	25.4%	$48.4	$37.0
PANAMA CITY, FL - COMCAST - OTHER	60.6	13.3%	$56.4	$42.4
SPOKANE, WA - NOCABLE - OTHER	60.4	31.5%	$34.7	$20.4
YOUNGSTOWN, OH - CHARTER - OTHER	60.3	22.5%	$44.1	$39.0
COLUMBUS, GA (OPELIKA, AL) - CHARTER - OTHER	59.6	18.8%	$53.2	$40.5
HUNTSVILLE-DECATUR (FLORENCE), AL - CHARTER - OTHER	59.6	25.2%	$44.2	$37.9
DENVER, CO - CHARTER	59.4	29.6%	$46.5	$33.7
MADISON, WI - CHARTER - OTHER	59.4	18.2%	$49.3	$42.6
MINNEAPOLIS-ST. PAUL, MN - MEDIACOM - OTHER	59.3	28.8%	$38.0	$33.9
WICHITA FALLS, TX & LAWTON, OK - NOCABLE - OTHER	58.9	30.7%	$33.0	$22.6
EUGENE, OR - CHARTER	58.8	23.2%	$49.2	$37.5
WILMINGTON, NC - CHARTER - OTHER	58.7	21.4%	$46.6	$38.7
MISSOULA, MT - CHARTER	58.2	25.8%	$48.6	$34.9
WHEELING, WV-STEUBENVILLE, OH - COMCAST	58.1	17.8%	$52.8	$28.9
CHARLESTON, SC - COMCAST	58.0	35.5%	$39.9	$19.8
KANSAS CITY, MO - CHARTER	57.7	32.2%	$43.3	$29.3
PORTLAND, OR - NOCABLE - OTHER	57.7	29.1%	$33.4	$22.9
WAUSAU-RHINELANDER, WI - CHARTER	57.6	21.6%	$51.1	$36.2
PADUCAH, KY-CAPE GIRARDEAU, MO-HARRISBURG, IL - NOCABLE - OTHER	57.0	35.3%	$29.8	$18.8
WACO-TEMPLE-BRYAN, TX - CHARTER - OTHER	56.8	22.4%	$44.4	$37.2
MACON, GA - COX	55.3	24.3%	$47.8	$31.0
SPRINGFIELD, MO - ALTICE	55.2	29.4%	$27.7	$16.1
SPOKANE, WA - CHARTER	55.2	27.2%	$42.8	$31.9
IDAHO FALLS-POCATELLO, ID (JACKSON, WY) - NOCABLE - OTHER	55.0	36.2%	$28.8	$16.8
DENVER, CO - NOCABLE - OTHER	54.8	41.4%	$26.1	$13.4
ALBUQUERQUE-SANTA FE, NM - NOCABLE	54.8	45.1%	$26.3	($2.2)
TRI-CITIES, TN-VA - CHARTER - OTHER	53.6	15.7%	$46.2	$38.6
HOUSTON, TX - NOCABLE - OTHER	53.2	46.7%	$22.6	$9.9
CHARLOTTE, NC - NOCABLE - OTHER	52.9	30.4%	$28.8	$20.0
UTICA, NY - CHARTER	52.7	18.4%	$50.1	$28.7
PORTLAND, OR - CHARTER	52.7	29.2%	$40.8	$30.2
ATLANTA, GA - CHARTER - OTHER	52.4	35.2%	$31.3	$26.7
RAPID CITY, SD - NOCABLE - OTHER	52.4	23.1%	$31.2	$22.4
TAMPA-ST. PETERSBURG (SARASOTA), FL - COMCAST	51.9	38.0%	$33.8	$20.9

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ALEXANDRIA, LA - ALTICE	51.6	29.4%	$25.1	$14.0
BOSTON, MA (MANCHESTER, NH) - NOCABLE - OTHER	51.4	23.2%	$29.8	$19.0
LINCOLN & HASTINGS-KEARNEY, NE - NOCABLE - OTHER	51.3	25.3%	$32.3	$21.3
GREENVILLE-NEW BERN-WASHINGTON, NC - ALTICE	50.8	28.8%	$23.9	$11.8
SANTA BARBARA-SANTA MARIA-SAN LUIS OBISPO, CA - COMCAST	50.7	29.6%	$38.0	$23.7
HARRISONBURG, VA - COMCAST	50.5	25.2%	$40.3	$23.7
ROANOKE-LYNCHBURG, VA - COX	50.4	20.0%	$46.9	$27.6
HATTIESBURG-LAUREL, MS - COMCAST	50.3	25.6%	$39.9	$24.6
SANTA BARBARA-SANTA MARIA-SAN LUIS OBISPO, CA - COX	49.9	16.1%	$49.6	$25.4
ODESSA-MIDLAND, TX - NOCABLE - OTHER	49.5	32.1%	$26.4	$18.2
SPRINGFIELD-HOLYOKE, MA - CHARTER	48.8	9.5%	$53.8	$16.4
AUSTIN, TX - ALTICE	48.8	44.2%	$17.0	$3.3
CHARLESTON-HUNTINGTON, WV - ALTICE - OTHER	48.7	20.6%	$27.8	$23.4
KANSAS CITY, MO - COMCAST - OTHER	48.6	30.3%	$33.1	$24.4
TOPEKA, KS - COX	48.4	30.9%	$37.6	$24.9
NEW YORK, NY - NOCABLE - OTHER	48.2	30.9%	$24.6	$13.6
CHARLOTTESVILLE, VA - COMCAST	48.2	17.8%	$43.3	$26.5
ABILENE-SWEETWATER, TX - ALTICE	47.8	25.8%	$24.5	$14.6
CLEVELAND-AKRON (CANTON), OH - COX	47.6	37.4%	$33.5	$19.8
SAVANNAH, GA - COMCAST - OTHER	47.5	28.0%	$32.2	$26.4
TRI-CITIES, TN-VA - CHARTER	47.4	22.6%	$41.9	$27.4
CHICO-REDDING, CA - CHARTER	47.3	30.8%	$35.4	$26.1
MARQUETTE, MI - CHARTER	47.0	23.2%	$42.5	$25.2
BEND, OR - NOCABLE - OTHER	46.9	15.5%	$30.5	$21.8
HARTFORD & NEW HAVEN, CT - CHARTER	46.5	11.0%	$49.7	$23.3
LOUISVILLE, KY - COMCAST - OTHER	46.3	17.7%	$36.7	$31.1
BLUEFIELD-BECKLEY-OAK HILL, WV - ALTICE	46.2	21.0%	$24.3	$13.8
TERRE HAUTE, IN - NOCABLE - OTHER	46.1	20.1%	$30.4	$22.9
MONTGOMERY-SELMA, AL - CHARTER	45.9	17.3%	$43.0	$30.5
ST. LOUIS, MO - CHARTER - OTHER	45.9	33.1%	$29.7	$25.1
ELMIRA (CORNING), NY - CHARTER	45.8	19.8%	$42.8	$23.5
MONTEREY-SALINAS, CA - CHARTER	45.6	45.5%	$24.5	$15.4
HOUSTON, TX - ALTICE - OTHER	45.4	36.2%	$20.8	$13.8
BALTIMORE, MD - NOCABLE - OTHER	45.0	35.3%	$21.3	$11.4
PROVIDENCE, RI-NEW BEDFORD, MA - COMCAST - VERIZON	44.6	2.0%	$34.5	$24.2
MONROE, LA-EL DORADO, AR - COMCAST	44.5	21.2%	$37.5	$25.0
SAN ANTONIO, TX - NOCABLE	44.3	53.8%	$17.1	($2.8)
SAVANNAH, GA - CHARTER - OTHER	44.1	21.9%	$35.0	$28.6

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DULUTH, MN-SUPERIOR, WI - CHARTER	43.8	26.1%	$37.6	$24.0
AUGUSTA, GA-AIKEN, SC - COMCAST	43.5	31.1%	$31.5	$18.1
AMARILLO, TX - NOCABLE - OTHER	43.5	25.0%	$27.6	$18.1
ROCHESTER, MN-MASON CITY, IA-AUSTIN, MN - CHARTER	43.2	16.7%	$42.9	$22.6
CORPUS CHRISTI, TX - CHARTER	43.1	37.8%	$29.0	$19.6
BILLINGS, MT - CHARTER	42.8	21.0%	$39.6	$24.7
TYLER-LONGVIEW(LUFKIN & NACOGDOCHES), TX - ALTICE - OTHER	42.4	33.9%	$21.4	$14.5
WAUSAU-RHINELANDER, WI - CHARTER - OTHER	42.3	18.3%	$36.2	$29.8
ODESSA-MIDLAND, TX - ALTICE - OTHER	42.1	32.0%	$19.7	$14.4
SAVANNAH, GA - NOCABLE - OTHER	42.1	31.9%	$23.0	$15.6
LOS ANGELES, CA - COX - OTHER	41.3	21.8%	$34.3	$26.2
LINCOLN & HASTINGS-KEARNEY, NE - CHARTER - OTHER	41.0	15.1%	$38.8	$29.0
DENVER, CO - NOCABLE	41.0	48.1%	$18.3	($1.9)
DES MOINES-AMES, IA - MEDIACOM - OTHER	40.4	29.3%	$26.7	$23.2
JACKSON, TN - CHARTER - OTHER	40.4	20.1%	$29.8	$26.9
CHICAGO, IL - MEDIACOM	40.1	41.4%	$22.1	$16.5
FRESNO-VISALIA, CA - CHARTER	40.1	46.4%	$20.6	$11.1
MINNEAPOLIS-ST. PAUL, MN - MEDIACOM	40.1	39.2%	$23.4	$18.2
COLUMBIA-JEFFERSON CITY, MO - MEDIACOM - OTHER	40.0	27.4%	$26.3	$23.8
PADUCAH, KY-CAPE GIRARDEAU, MO-HARRISBURG, IL - MEDIACOM	39.5	39.0%	$22.6	$16.3
LAREDO, TX - CHARTER	39.3	24.5%	$34.4	$18.6
CHAMPAIGN & SPRINGFIELD-DECATUR, IL - MEDIACOM	39.2	34.3%	$24.6	$18.8
GRAND JUNCTION-MONTROSE, CO - CHARTER	39.0	7.0%	$41.7	$30.4
AUGUSTA, GA-AIKEN, SC - NOCABLE - OTHER	38.4	36.2%	$19.4	$12.5
TALLAHASSEE, FL-THOMASVILLE, GA - MEDIACOM	38.0	37.0%	$22.8	$17.5
ERIE, PA - NOCABLE - OTHER	38.0	18.2%	$24.4	$18.4
BURLINGTON, VT-PLATTSBURGH, NY - COMCAST - OTHER	38.0	14.5%	$33.8	$25.6
LOUISVILLE, KY - CHARTER - OTHER	37.4	28.4%	$25.9	$22.3
EL PASO, TX (LAS CRUCES, NM) - COMCAST	37.3	33.3%	$27.3	$15.8
TOPEKA, KS - NOCABLE - OTHER	36.9	27.5%	$21.3	$15.3
MACON, GA - COX - OTHER	36.6	27.3%	$27.4	$22.7
SALT LAKE CITY, UT - NOCABLE	36.4	50.3%	$15.5	($2.0)
GREENVILLE-NEW BERN-WASHINGTON, NC - ALTICE - OTHER	36.1	20.3%	$19.1	$12.5
MIAMI-FT. LAUDERDALE, FL - NOCABLE - OTHER	35.8	45.1%	$13.6	$4.0
GRAND RAPIDS-KALAMAZOO-BATTLE CREEK, MI - CHARTER - OTHER	35.6	23.4%	$29.0	$23.8
TALLAHASSEE, FL-THOMASVILLE, GA - COMCAST	35.5	25.3%	$27.6	$19.5
CHARLESTON-HUNTINGTON, WV - NOCABLE - OTHER	35.4	27.9%	$20.3	$14.5

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HUNTSVILLE-DECATUR (FLORENCE), AL - COMCAST	35.1	34.9%	$24.3	$12.9
LIMA, OH - CHARTER - OTHER	34.9	10.0%	$32.8	$27.1
LITTLE ROCK-PINE BLUFF, AR - NOCABLE	34.9	42.3%	$17.8	($0.9)
LANSING, MI - COMCAST - OTHER	34.8	29.7%	$23.5	$18.5
PHILADELPHIA, PA - ALTICE - VERIZON	34.8	6.0%	$15.8	$10.9
LITTLE ROCK-PINE BLUFF, AR - ALTICE - OTHER	34.7	42.3%	$14.7	$9.1
BUTTE-BOZEMAN, MT - CHARTER	34.5	28.7%	$28.1	$18.9
MONROE, LA-EL DORADO, AR - ALTICE	34.5	22.6%	$19.8	$13.2
TWIN FALLS, ID - NOCABLE - OTHER	34.3	29.4%	$20.4	$12.6
KNOXVILLE, TN - CHARTER - OTHER	34.2	19.8%	$27.4	$23.4
PEORIA-BLOOMINGTON, IL - COMCAST - OTHER	34.1	19.9%	$28.6	$18.8
RICHMOND-PETERSBURG, VA - NOCABLE - OTHER	34.0	46.7%	$14.3	$6.5
SAN ANGELO, TX - ALTICE	34.0	7.7%	$22.3	$18.2
LEXINGTON, KY - NOCABLE - OTHER	33.8	24.3%	$21.0	$15.2
OMAHA, NE - NOCABLE - OTHER	33.8	30.3%	$19.4	$12.7
LAKE CHARLES, LA - ALTICE - OTHER	33.8	35.1%	$15.0	$10.3
SPOKANE, WA - NOCABLE	33.1	39.3%	$17.9	($0.7)
DOTHAN, AL - CHARTER - OTHER	33.1	26.3%	$24.9	$20.4
DAVENPORT, IA-ROCK ISLAND-MOLINE, IL - COMCAST	32.8	17.9%	$29.5	$17.5
HARTFORD & NEW HAVEN, CT - NOCABLE - OTHER	32.7	21.4%	$19.4	$12.5
FT. WAYNE, IN - MEDIACOM	32.7	37.0%	$19.3	$13.5
BOSTON, MA (MANCHESTER, NH) - CHARTER - VERIZON	32.6	2.9%	$17.2	$20.7
CLEVELAND-AKRON (CANTON), OH - NOCABLE - OTHER	32.3	22.4%	$19.1	$12.9
COLUMBUS, GA (OPELIKA, AL) - MEDIACOM - OTHER	32.0	26.8%	$20.7	$19.0
DALLAS-FT. WORTH, TX - ALTICE - OTHER	32.0	53.0%	$10.4	$3.7
RALEIGH-DURHAM (FAYETTEVILLE), NC - ALTICE - OTHER	31.9	27.4%	$16.0	$10.5
PORTLAND-AUBURN, ME - COMCAST	31.7	12.7%	$31.1	$11.6
DETROIT, MI - CHARTER - OTHER	31.7	31.4%	$20.7	$17.7
BIRMINGHAM (ANNISTON AND TUSCALOOSA), AL - NOCABLE	31.3	58.3%	$10.6	($2.8)
CHAMPAIGN & SPRINGFIELD-DECATUR, IL - NOCABLE - OTHER	31.2	31.9%	$17.1	$11.6
MOBILE, AL-PENSACOLA (FT. WALTON BEACH), FL - MEDIACOM - OTHER	31.2	42.4%	$15.5	$11.0
PHOENIX (PRESCOTT), AZ - NOCABLE	31.1	52.2%	$12.6	($2.0)
MONTGOMERY-SELMA, AL - NOCABLE - OTHER	31.0	25.0%	$19.2	$13.6
CHEYENNE, WY-SCOTTSBLUFF, NE - CHARTER	30.6	6.5%	$32.9	$23.7
CHAMPAIGN & SPRINGFIELD-DECATUR, IL - MEDIACOM - OTHER	30.5	20.1%	$21.4	$19.4
SPRINGFIELD, MO - NOCABLE	30.3	39.0%	$16.5	($0.7)
HARTFORD & NEW HAVEN, CT - ALTICE - OTHER	30.2	7.9%	$17.6	$10.7

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BOWLING GREEN, KY - CHARTER	30.2	14.2%	$30.0	$18.7
LITTLE ROCK-PINE BLUFF, AR - COMCAST - OTHER	30.1	52.8%	$11.8	$6.1
BIRMINGHAM (ANNISTON AND TUSCALOOSA), AL - CHARTER - OTHER	29.9	39.2%	$16.8	$12.5
TYLER-LONGVIEW(LUFKIN & NACOGDOCHES), TX - NOCABLE - OTHER	29.9	40.7%	$13.9	$8.3
JOPLIN, MO-PITTSBURG, KS - NOCABLE - OTHER	29.6	26.1%	$18.2	$12.5
CHARLESTON-HUNTINGTON, WV - CHARTER - OTHER	28.6	24.3%	$20.0	$17.8
COLUMBUS, GA (OPELIKA, AL) - NOCABLE - OTHER	28.5	38.0%	$13.4	$8.4
SAN FRANCISCO-OAKLAND-SAN JOSE, CA - CHARTER	28.5	47.0%	$15.5	$10.4
LAKE CHARLES, LA - ALTICE	28.2	23.8%	$13.5	$4.9
BALTIMORE, MD - COMCAST - OTHER	28.1	25.7%	$21.0	$14.6
EUREKA, CA - ALTICE	28.0	18.8%	$14.6	$6.9
PEORIA-BLOOMINGTON, IL - MEDIACOM	27.6	36.1%	$16.8	$12.7
ROCHESTER, MN-MASON CITY, IA-AUSTIN, MN - MEDIACOM - OTHER	27.4	27.7%	$17.9	$16.2
MONROE, LA-EL DORADO, AR - NOCABLE - OTHER	27.4	31.9%	$16.1	$7.4
JONESBORO, AR - NOCABLE - OTHER	27.3	22.6%	$16.6	$12.3
PADUCAH, KY-CAPE GIRARDEAU, MO-HARRISBURG, IL - NOCABLE	27.3	43.6%	$13.5	($0.9)
MACON, GA - NOCABLE - OTHER	27.2	39.0%	$13.4	$7.7
WACO-TEMPLE-BRYAN, TX - NOCABLE	27.1	46.2%	$12.7	($1.1)
ZANESVILLE, OH - CHARTER	27.0	26.2%	$23.1	$12.2
PORTLAND-AUBURN, ME - CHARTER - OTHER	26.9	19.9%	$21.2	$18.3
PROVIDENCE, RI-NEW BEDFORD, MA - COX	26.6	11.5%	$28.4	$11.6
LAFAYETTE, LA - CHARTER	26.5	38.2%	$18.0	$11.5
SHREVEPORT, LA - NOCABLE	26.3	52.5%	$10.5	($1.5)
EVANSVILLE, IN - NOCABLE - OTHER	26.1	36.2%	$13.7	$7.9
SACRAMENTO-STOCKTON-MODESTO, CA - NOCABLE	25.9	48.4%	$11.5	($1.3)
DES MOINES-AMES, IA - NOCABLE - OTHER	25.5	30.9%	$14.2	$9.7
PARKERSBURG, WV - ALTICE - OTHER	25.5	10.9%	$15.0	$12.0
CASPER-RIVERTON, WY - CHARTER	25.5	9.3%	$26.9	$18.2
WICHITA FALLS, TX & LAWTON, OK - CHARTER	25.4	28.0%	$20.0	$14.4
JACKSON, TN - CHARTER	25.3	29.4%	$19.9	$14.0
COLUMBUS-TUPELO-WEST POINT-HOUSTON, MS - COMCAST	25.3	35.1%	$16.9	$10.6
DULUTH, MN-SUPERIOR, WI - MEDIACOM	25.2	36.7%	$15.4	$11.9
PADUCAH, KY-CAPE GIRARDEAU, MO-HARRISBURG, IL - CHARTER - OTHER	25.2	28.1%	$17.8	$15.1
COLUMBIA-JEFFERSON CITY, MO - CHARTER	25.1	32.7%	$18.5	$13.6
SOUTH BEND-ELKHART, IN - MEDIACOM	25.0	39.2%	$14.2	$9.7
HUNTSVILLE-DECATUR (FLORENCE), AL - MEDIACOM - OTHER	24.8	40.2%	$12.7	$11.0

Zone	Turner Subscribers (thousands)	DTV Share	Change in Rival MVPD costs per month (thousands)	Net Consumer effect per month (thousands)
LAFAYETTE, IN - COMCAST	24.8	19.3%	$22.2	$11.6
GREAT FALLS, MT - CHARTER	24.7	20.6%	$22.4	$15.6
COLUMBIA, SC - NOCABLE - OTHER	24.3	48.3%	$9.9	$4.0
INDIANAPOLIS, IN - NOCABLE - OTHER	24.1	42.0%	$11.4	$5.5
CHARLESTON-HUNTINGTON, WV - COMCAST	23.9	26.7%	$18.9	$11.4
YOUNGSTOWN, OH - NOCABLE - OTHER	23.8	17.3%	$14.7	$8.2
ST. JOSEPH, MO - ALTICE	23.7	27.7%	$11.1	$4.8
NEW ORLEANS, LA - COMCAST	23.5	43.1%	$14.1	$5.9
ST. LOUIS, MO - NOCABLE	23.4	53.5%	$9.1	($1.4)
TOPEKA, KS - COX - OTHER	23.4	26.0%	$18.5	$14.5
KANSAS CITY, MO - NOCABLE	23.3	47.2%	$10.6	($0.8)
HOUSTON, TX - NOCABLE	23.0	54.5%	$8.8	($1.7)
PADUCAH, KY-CAPE GIRARDEAU, MO-HARRISBURG, IL - COMCAST	22.9	26.9%	$17.9	$10.0
PHOENIX (PRESCOTT), AZ - MEDIACOM - OTHER	22.7	52.3%	$9.5	$6.1
CHATTANOOGA, TN - COMCAST	22.6	26.6%	$17.5	$11.4
JOPLIN, MO-PITTSBURG, KS - MEDIACOM - OTHER	22.6	31.3%	$13.0	$9.6
CLARKSBURG-WESTON, WV - CHARTER	22.6	16.8%	$21.3	$14.7
ALBANY-SCHENECTADY-TROY, NY - CHARTER - OTHER	22.5	28.9%	$14.4	$12.6
SACRAMENTO-STOCKTON-MODESTO, CA - ALTICE	22.1	29.1%	$10.6	$5.8
MACON, GA - CHARTER	21.8	31.3%	$16.0	$11.9
GREENWOOD-GREENVILLE, MS - NOCABLE - OTHER	21.7	44.9%	$9.2	$5.0
ODESSA-MIDLAND, TX - ALTICE	21.6	28.7%	$11.4	$6.8
ORLANDO-DAYTONA BEACH-MELBOURNE, FL - COX - OTHER	21.4	20.2%	$18.9	$13.8
NASHVILLE, TN - NOCABLE - OTHER	21.4	34.7%	$11.5	$7.0
BATON ROUGE, LA - NOCABLE - OTHER	21.4	56.4%	$6.7	$1.9
ATLANTA, GA - NOCABLE	21.0	51.5%	$8.6	($0.8)
SIOUX FALLS(MITCHELL), SD - MEDIACOM - OTHER	20.9	18.2%	$15.3	$14.0
SALISBURY, MD - MEDIACOM	20.9	24.9%	$16.1	$10.7
CLEVELAND-AKRON (CANTON), OH - COX - OTHER	20.8	32.4%	$14.5	$11.3
KNOXVILLE, TN - NOCABLE - OTHER	20.6	28.7%	$11.4	$8.0
BINGHAMTON, NY - CHARTER - OTHER	20.6	23.8%	$16.1	$13.2
MERIDIAN, MS - COMCAST	20.5	25.0%	$16.4	$10.2
OMAHA, NE - CHARTER	20.4	19.4%	$17.9	$13.7
GREENWOOD-GREENVILLE, MS - ALTICE	20.4	32.9%	$9.2	$4.6
VICTORIA, TX - ALTICE	20.3	19.4%	$11.2	$7.3
DAYTON, OH - CHARTER - OTHER	20.1	17.3%	$17.4	$14.1
CHATTANOOGA, TN - CHARTER	20.1	24.2%	$16.5	$12.4
SEATTLE-TACOMA, WA - CHARTER - OTHER	20.0	24.7%	$16.3	$12.7

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GREEN BAY-APPLETON, WI - CHARTER - OTHER	20.0	27.5%	$13.8	$11.9
GRAND RAPIDS-KALAMAZOO-BATTLE CREEK, MI - NOCABLE - OTHER	19.9	40.0%	$9.8	$4.9
RALEIGH-DURHAM (FAYETTEVILLE), NC - NOCABLE - OTHER	19.8	43.1%	$9.0	$4.6
OKLAHOMA CITY, OK - NOCABLE	19.8	52.0%	$8.0	($1.0)
WHEELING, WV-STEUBENVILLE, OH - COMCAST - OTHER	19.7	21.9%	$16.1	$11.3
LA CROSSE-EAU CLAIRE, WI - NOCABLE - OTHER	19.7	30.7%	$10.8	$7.5
LA CROSSE-EAU CLAIRE, WI - CHARTER	19.7	26.7%	$16.1	$11.5
AUSTIN, TX - NOCABLE - OTHER	19.6	43.3%	$9.1	$4.0
WILMINGTON, NC - NOCABLE - OTHER	19.6	15.7%	$12.4	$7.2
PORTLAND, OR - NOCABLE	19.3	43.0%	$9.7	($0.6)
FAIRBANKS, AK - NOCABLE - OTHER	19.3	23.5%	$11.0	$6.6
HARTFORD & NEW HAVEN, CT - ALTICE	19.3	9.9%	$11.0	$4.8
TULSA, OK - ALTICE	19.2	30.1%	$9.4	$5.6
MEMPHIS, TN - CHARTER	19.1	42.7%	$11.5	$8.0
JACKSON, MS - NOCABLE	19.0	58.3%	$6.4	($1.3)
SAN FRANCISCO-OAKLAND-SAN JOSE, CA - MEDIACOM	18.8	41.2%	$10.3	$7.4
CLARKSBURG-WESTON, WV - ALTICE	18.8	17.6%	$11.4	$8.1
CINCINNATI, OH - NOCABLE - OTHER	18.8	30.6%	$10.3	$7.1
LOUISVILLE, KY - NOCABLE - OTHER	18.7	33.7%	$10.4	$5.9
DOTHAN, AL - COMCAST - OTHER	18.7	23.0%	$14.3	$11.3
LANSING, MI - NOCABLE - OTHER	18.7	40.9%	$8.9	$4.7
PORTLAND, OR - CHARTER - OTHER	18.7	21.4%	$15.5	$12.8
PRESQUE ISLE, ME - CHARTER	18.6	8.6%	$19.1	$14.6
FLINT-SAGINAW-BAY CITY, MI - CHARTER - OTHER	18.6	17.9%	$16.3	$13.0
FT. SMITH-FAYETTEVILLE-SPRINGDALE-ROGERS, AR - ALTICE	18.4	37.0%	$9.2	$3.8
TOLEDO, OH - COMCAST - OTHER	18.4	19.4%	$15.1	$11.4
TRI-CITIES, TN-VA - COMCAST - OTHER	18.4	27.3%	$12.9	$10.1
FRESNO-VISALIA, CA - NOCABLE	18.3	53.1%	$7.2	($1.3)
CORPUS CHRISTI, TX - NOCABLE - OTHER	18.3	46.6%	$7.5	$3.8
SAN ANTONIO, TX - NOCABLE - OTHER	18.1	46.2%	$8.1	$2.1
HARRISBURG-LANCASTER-LEBANON-YORK, PA - NOCABLE - OTHER	18.1	26.1%	$10.3	$7.1
SEATTLE-TACOMA, WA - NOCABLE	18.1	50.8%	$7.6	($0.8)
HATTIESBURG-LAUREL, MS - NOCABLE - OTHER	18.0	44.6%	$8.2	$3.1
PADUCAH, KY-CAPE GIRARDEAU, MO-HARRISBURG, IL - MEDIACOM - OTHER	18.0	32.8%	$10.7	$8.5
NASHVILLE, TN - MEDIACOM	17.9	46.1%	$8.8	$5.4
HOUSTON, TX - CHARTER	17.8	55.5%	$8.0	$4.9

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WAUSAU-RHINELANDER, WI - NOCABLE - OTHER	17.8	33.4%	$9.7	$6.1
BOWLING GREEN, KY - MEDIACOM - OTHER	17.5	3.7%	$13.1	$9.8
TRAVERSE CITY-CADILLAC, MI - NOCABLE	17.5	47.8%	$7.9	($0.8)
TRI-CITIES, TN-VA - NOCABLE - OTHER	17.4	31.3%	$9.4	$6.5
MONROE, LA-EL DORADO, AR - NOCABLE	17.4	34.3%	$10.3	$0.1
JACKSONVILLE, FL - NOCABLE - OTHER	17.3	29.5%	$9.9	$6.9
JACKSONVILLE, FL - COMCAST - OTHER	17.2	21.8%	$11.6	$10.0
COLORADO SPRINGS-PUEBLO, CO - CHARTER	17.1	28.4%	$14.0	$9.5
SPRINGFIELD, MO - CHARTER - OTHER	17.1	24.2%	$15.2	$12.5
SALISBURY, MD - MEDIACOM - VERIZON	17.0	11.3%	$10.0	$8.4
JUNEAU, AK - NOCABLE - OTHER	17.0	12.2%	$11.0	$4.2
DAVENPORT, IA-ROCK ISLAND-MOLINE, IL - NOCABLE - OTHER	16.8	24.1%	$9.9	$7.2
DULUTH, MN-SUPERIOR, WI - NOCABLE - OTHER	16.7	30.2%	$9.6	$6.4
GAINESVILLE, FL - NOCABLE	16.7	35.0%	$9.8	($0.4)
SACRAMENTO-STOCKTON-MODESTO, CA - ALTICE - OTHER	16.5	34.5%	$8.2	$5.8
JONESBORO, AR - ALTICE - OTHER	16.4	21.3%	$8.8	$6.7
CHATTANOOGA, TN - NOCABLE - OTHER	16.3	39.6%	$8.1	$4.1
ROANOKE-LYNCHBURG, VA - NOCABLE	16.2	50.5%	$6.8	($0.9)
NORFOLK-PORTSMOUTH-NEWPORT NEWS, VA - MEDIACOM	16.2	50.0%	$7.3	$4.5
MERIDIAN, MS - NOCABLE - OTHER	16.0	32.9%	$9.1	$4.8
SIOUX CITY, IA - MEDIACOM - OTHER	15.9	16.9%	$11.9	$11.0
CEDAR RAPIDS-WATERLOO-IOWA CITY & DUBUQUE, IA - NOCABLE - OTHER	15.8	26.5%	$9.5	$6.7
ABILENE-SWEETWATER, TX - NOCABLE - OTHER	15.7	33.9%	$8.9	$4.3
JOPLIN, MO-PITTSBURG, KS - ALTICE	15.6	28.7%	$8.8	$5.0
SAN FRANCISCO-OAKLAND-SAN JOSE, CA - NOCABLE - OTHER	15.6	39.0%	$7.1	$4.1
CHAMPAIGN & SPRINGFIELD-DECATUR, IL - COMCAST - OTHER	15.6	26.0%	$11.9	$9.3
HUNTSVILLE-DECATUR (FLORENCE), AL - NOCABLE - OTHER	15.6	39.3%	$7.7	$4.2
WILKES BARRE-SCRANTON-HAZLETON, PA - COMCAST - VERIZON - OTHER	15.5	15.9%	$6.7	$5.9
ALBANY-SCHENECTADY-TROY, NY - NOCABLE - OTHER	15.5	31.4%	$8.2	$5.5
HELENA, MT - CHARTER	15.4	14.9%	$15.0	$10.5
TYLER-LONGVIEW(LUFKIN & NACOGDOCHES), TX - NOCABLE	15.4	46.8%	$7.1	($0.7)
TULSA, OK - NOCABLE	15.2	45.2%	$7.2	($0.2)
TALLAHASSEE, FL-THOMASVILLE, GA - NOCABLE	15.1	38.5%	$8.3	($0.4)
LUBBOCK, TX - NOCABLE	15.0	41.8%	$7.8	($0.5)
RICHMOND-PETERSBURG, VA - NOCABLE	15.0	59.4%	$4.9	($1.4)
COLORADO SPRINGS-PUEBLO, CO - NOCABLE	15.0	51.2%	$6.2	($0.9)

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COLUMBUS, GA (OPELIKA, AL) - CHARTER	15.0	33.7%	$10.9	$7.7
LA CROSSE-EAU CLAIRE, WI - MEDIACOM - OTHER	14.9	20.8%	$9.8	$8.8
TERRE HAUTE, IN - CHARTER - OTHER	14.9	17.6%	$13.3	$10.3
ABILENE-SWEETWATER, TX - NOCABLE	14.8	39.1%	$8.1	($0.4)
QUINCY, IL-HANNIBAL, MO-KEOKUK, IA - COMCAST	14.8	15.6%	$13.5	$8.7
WICHITA FALLS, TX & LAWTON, OK - ALTICE	14.7	36.6%	$7.4	$3.2
NEW ORLEANS, LA - NOCABLE - OTHER	14.7	37.7%	$6.7	$3.5
PROVIDENCE, RI-NEW BEDFORD, MA - COX - OTHER	14.5	9.9%	$13.4	$11.0
CHARLESTON-HUNTINGTON, WV - NOCABLE	14.3	43.8%	$7.0	($0.4)
PEORIA-BLOOMINGTON, IL - MEDIACOM - OTHER	14.2	34.2%	$8.5	$7.2
BATON ROUGE, LA - CHARTER - OTHER	14.2	33.0%	$9.2	$7.7
LUBBOCK, TX - NOCABLE - OTHER	14.2	26.9%	$8.9	$5.0
BILLINGS, MT - NOCABLE - OTHER	14.1	28.9%	$8.2	$5.6
PARKERSBURG, WV - ALTICE	14.0	17.3%	$7.8	$4.8
HARTFORD & NEW HAVEN, CT - CHARTER - OTHER	14.0	10.2%	$14.5	$8.9
CLARKSBURG-WESTON, WV - NOCABLE - OTHER	14.0	22.2%	$9.5	$5.6
NEW ORLEANS, LA - CHARTER - OTHER	14.0	46.5%	$7.2	$5.4
WICHITA-HUTCHINSON, KS PLUS - COX - OTHER	13.8	23.3%	$11.5	$9.0
ALBANY, GA - NOCABLE - OTHER	13.8	19.5%	$9.5	$6.5
SOUTH BEND-ELKHART, IN - COMCAST - OTHER	13.7	22.0%	$10.4	$8.5
BILOXI-GULFPORT, MS - MEDIACOM - OTHER	13.7	48.9%	$5.1	$2.7
CHARLESTON, SC - NOCABLE - OTHER	13.7	35.3%	$7.1	$4.5
CHICO-REDDING, CA - NOCABLE	13.5	40.7%	$7.1	($0.4)
WACO-TEMPLE-BRYAN, TX - NOCABLE - OTHER	13.5	42.8%	$6.3	$2.9
YOUNGSTOWN, OH - COMCAST	13.5	22.8%	$11.3	$6.1
DAVENPORT, IA-ROCK ISLAND-MOLINE, IL - MEDIACOM - OTHER	13.4	30.0%	$8.6	$7.3
JONESBORO, AR - ALTICE	13.4	20.9%	$7.1	$4.3
OTTUMWA, IA-KIRKSVILLE, MO - NOCABLE - OTHER	13.2	15.4%	$9.4	$7.1
CINCINNATI, OH - COMCAST - OTHER	13.2	29.5%	$8.9	$7.0
BLUEFIELD-BECKLEY-OAK HILL, WV - COMCAST	13.2	25.6%	$10.4	$6.6
TERRE HAUTE, IN - CHARTER	13.1	14.8%	$12.8	$8.7
COLUMBIA-JEFFERSON CITY, MO - NOCABLE	13.1	45.9%	$6.2	($0.5)
GREEN BAY-APPLETON, WI - NOCABLE - OTHER	13.0	40.8%	$6.4	$3.0
GREENVILLE-SPARTANBURG, SC-ASHEVILLE, NC-ANDERSON, SC - COMCAST - OTHER	12.9	23.8%	$8.6	$7.4
MANKATO, MN - CHARTER - OTHER	12.9	11.8%	$11.8	$9.7
PANAMA CITY, FL - MEDIACOM - OTHER	12.8	19.5%	$10.1	$8.7
GRAND RAPIDS-KALAMAZOO-BATTLE CREEK, MI - COMCAST - OTHER	12.8	24.1%	$8.7	$7.5

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PANAMA CITY, FL - COX	12.7	9.5%	$13.8	$6.4
ELMIRA (CORNING), NY - CHARTER - OTHER	12.6	22.7%	$10.4	$8.0
FT. WAYNE, IN - MEDIACOM - OTHER	12.6	28.5%	$8.1	$6.9
DENVER, CO - CHARTER - OTHER	12.4	25.3%	$10.1	$7.8
COLUMBIA-JEFFERSON CITY, MO - NOCABLE - OTHER	12.4	32.0%	$7.1	$4.1
LIMA, OH - CHARTER	12.3	14.2%	$12.2	$7.8
SPRINGFIELD, MO - COX	12.3	20.8%	$10.5	$8.2
MYRTLE BEACH-FLORENCE, SC - NOCABLE - OTHER	12.3	34.2%	$6.3	$4.2
KANSAS CITY, MO - MEDIACOM	12.2	41.2%	$6.7	$4.5
BAKERSFIELD, CA - MEDIACOM	12.2	50.8%	$5.3	$3.2
FRESNO-VISALIA, CA - NOCABLE - OTHER	12.1	38.0%	$6.3	$2.9
AUSTIN, TX - NOCABLE	12.0	49.2%	$5.2	($0.5)
MEDFORD-KLAMATH FALLS, OR - NOCABLE	12.0	43.0%	$6.0	($0.4)
SALISBURY, MD - COMCAST - VERIZON	11.9	7.2%	$9.7	$5.5
MADISON, WI - NOCABLE - OTHER	11.9	31.4%	$6.6	$4.4
LOUISVILLE, KY - COMCAST	11.8	23.2%	$9.2	$6.7
TULSA, OK - ALTICE - OTHER	11.8	36.0%	$5.8	$3.6
SHREVEPORT, LA - COMCAST - OTHER	11.7	47.5%	$5.5	$3.6
PANAMA CITY, FL - MEDIACOM	11.7	34.6%	$7.6	$6.0
ALPENA, MI - CHARTER	11.5	6.8%	$12.6	$8.3
GREEN BAY-APPLETON, WI - COMCAST	11.5	25.3%	$9.3	$5.9
ALBUQUERQUE-SANTA FE, NM - CHARTER	11.5	36.1%	$7.9	$5.7
MISSOULA, MT - NOCABLE	11.5	40.4%	$6.1	($0.4)
HARRISONBURG, VA - COMCAST - OTHER	11.4	19.6%	$9.7	$6.2
BEAUMONT-PORT ARTHUR, TX - NOCABLE	11.4	42.3%	$5.8	($0.4)
BURLINGTON, VT-PLATTSBURGH, NY - NOCABLE - OTHER	11.4	27.9%	$6.6	$4.7
BLUEFIELD-BECKLEY-OAK HILL, WV - ALTICE - OTHER	11.4	21.6%	$6.1	$4.6
INDIANAPOLIS, IN - NOCABLE	11.3	52.2%	$4.6	($0.6)
ALBANY-SCHENECTADY-TROY, NY - COMCAST	11.3	15.6%	$10.7	$4.5
NEW ORLEANS, LA - COMCAST - OTHER	11.1	33.6%	$6.5	$5.2
PANAMA CITY, FL - COMCAST	11.1	28.8%	$7.9	$5.4
CLARKSBURG-WESTON, WV - COMCAST	11.1	15.4%	$10.1	$7.0
JOPLIN, MO-PITTSBURG, KS - COX	11.0	14.8%	$10.6	$7.7
ROCKFORD, IL - CHARTER	10.9	20.2%	$10.1	$6.0
WILKES BARRE-SCRANTON-HAZLETON, PA - CHARTER - OTHER	10.9	24.7%	$8.4	$6.9
SPOKANE, WA - ALTICE	10.8	30.6%	$6.1	$2.9
QUINCY, IL-HANNIBAL, MO-KEOKUK, IA - NOCABLE	10.8	32.1%	$6.7	($0.0)
RENO, NV - NOCABLE - OTHER	10.7	43.7%	$4.8	$2.5

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QUINCY, IL-HANNIBAL, MO-KEOKUK, IA - NOCABLE - OTHER	10.7	21.0%	$7.3	$4.8
MOBILE, AL-PENSACOLA (FT. WALTON BEACH), FL - CHARTER	10.7	41.3%	$6.7	$4.6
FT. WAYNE, IN - COMCAST	10.7	27.1%	$8.1	$5.4
LAS VEGAS, NV - ALTICE	10.7	51.6%	$4.1	$0.3
LAFAYETTE, IN - COMCAST - OTHER	10.6	18.6%	$9.3	$5.3
LOS ANGELES, CA - NOCABLE	10.5	62.0%	$3.1	($1.2)
PITTSBURGH, PA - COMCAST - VERIZON - OTHER	10.4	7.0%	$6.8	$6.0
KANSAS CITY, MO - ALTICE	10.4	31.3%	$5.3	$3.0
COLUMBUS, GA (OPELIKA, AL) - MEDIACOM	10.4	34.2%	$6.5	$5.2
NASHVILLE, TN - NOCABLE	10.3	48.3%	$4.6	($0.5)
TWIN FALLS, ID - COX	10.1	16.5%	$9.9	$5.8
DULUTH, MN-SUPERIOR, WI - MEDIACOM - OTHER	10.0	23.1%	$6.8	$6.2
BUFFALO, NY - NOCABLE - OTHER	10.0	34.7%	$5.0	$3.2
OMAHA, NE - CHARTER - OTHER	10.0	24.3%	$8.2	$6.0
MACON, GA - CHARTER - OTHER	10.0	26.7%	$7.8	$6.1
LOS ANGELES, CA - ALTICE	10.0	41.1%	$3.9	$1.5
PANAMA CITY, FL - CHARTER	9.9	28.3%	$7.5	$5.6
TRAVERSE CITY-CADILLAC, MI - NOCABLE - OTHER	9.9	36.6%	$5.2	$2.9
COLUMBUS-TUPELO-WEST POINT-HOUSTON, MS - COMCAST - OTHER	9.8	43.7%	$5.0	$3.5
WHEELING, WV-STEUBENVILLE, OH - NOCABLE - OTHER	9.8	33.1%	$5.2	$3.5
CHICAGO, IL - CHARTER	9.8	37.1%	$6.5	$4.7
BANGOR, ME - NOCABLE - OTHER	9.7	32.1%	$5.2	$3.6
BANGOR, ME - NOCABLE	9.7	51.4%	$4.0	($0.6)
LINCOLN & HASTINGS-KEARNEY, NE - NOCABLE	9.7	36.7%	$5.5	$0.0
ROCKFORD, IL - MEDIACOM	9.6	33.1%	$6.2	$4.7
ALBANY, GA - MEDIACOM - OTHER	9.6	18.1%	$7.0	$6.5
LAKE CHARLES, LA - NOCABLE - OTHER	9.6	45.0%	$4.0	$2.2
MEMPHIS, TN - COMCAST - OTHER	9.6	53.0%	$3.7	$1.8
MOBILE, AL-PENSACOLA (FT. WALTON BEACH), FL - NOCABLE	9.5	50.7%	$4.0	($0.6)
NEW YORK, NY - ALTICE - VERIZON - OTHER	9.5	9.4%	$5.1	$4.3
COLUMBIA, SC - NOCABLE	9.5	54.1%	$3.6	($0.6)
DES MOINES-AMES, IA - NOCABLE	9.4	42.0%	$4.8	($0.2)
OMAHA, NE - MEDIACOM	9.4	31.3%	$6.2	$4.8
LEXINGTON, KY - MEDIACOM - OTHER	9.3	21.9%	$6.1	$4.8
QUINCY, IL-HANNIBAL, MO-KEOKUK, IA - MEDIACOM	9.3	21.2%	$7.3	$5.9
LUBBOCK, TX - ALTICE	9.3	22.5%	$5.2	$3.4
SYRACUSE, NY - CHARTER - OTHER	9.3	25.1%	$7.3	$5.8
TALLAHASSEE, FL-THOMASVILLE, GA - MEDIACOM - OTHER	9.3	27.2%	$6.0	$5.1

Zone	Turner Subscribers (thousands)	DTV Share	Change in Rival MVPD costs per month (thousands)	Net Consumer effect per month (thousands)
RAPID CITY, SD - CHARTER	9.3	22.4%	$8.1	$5.8
COLUMBIA-JEFFERSON CITY, MO - CHARTER - OTHER	9.2	23.9%	$7.0	$6.1
BLUEFIELD-BECKLEY-OAK HILL, WV - NOCABLE - OTHER	9.2	23.5%	$5.5	$4.1
NEW ORLEANS, LA - NOCABLE	9.2	66.3%	$2.3	($1.4)
MADISON, WI - MEDIACOM - OTHER	9.1	31.5%	$5.6	$4.3
BUFFALO, NY - COMCAST - OTHER	9.1	30.2%	$5.6	$4.7
BEAUMONT-PORT ARTHUR, TX - NOCABLE - OTHER	9.1	39.6%	$4.6	$1.8
RICHMOND-PETERSBURG, VA - COX	9.1	41.2%	$5.7	$4.0
MADISON, WI - MEDIACOM	9.0	29.6%	$6.0	$4.0
BILLINGS, MT - CHARTER - OTHER	9.0	21.8%	$7.0	$6.1
TUCSON (SIERRA VISTA), AZ - MEDIACOM	8.9	45.4%	$4.4	$2.5
MEDFORD-KLAMATH FALLS, OR - NOCABLE - OTHER	8.9	37.4%	$4.6	$2.5
LAFAYETTE, LA - ALTICE	8.8	50.7%	$3.0	$0.7
CHAMPAIGN & SPRINGFIELD-DECATUR, IL - NOCABLE	8.8	43.6%	$4.3	($0.2)
PHOENIX (PRESCOTT), AZ - ALTICE - OTHER	8.7	43.1%	$3.8	$2.1
EVANSVILLE, IN - COMCAST	8.6	39.5%	$5.2	$3.4
QUINCY, IL-HANNIBAL, MO-KEOKUK, IA - CHARTER	8.6	14.9%	$8.1	$6.2
TULSA, OK - COX - OTHER	8.6	45.8%	$3.9	$2.6
ORLANDO-DAYTONA BEACH-MELBOURNE, FL - COX	8.6	29.6%	$6.7	$4.7
BUFFALO, NY - CHARTER - OTHER	8.5	30.8%	$6.2	$4.8
MONTGOMERY-SELMA, AL - NOCABLE	8.5	32.9%	$5.2	($0.2)
GREEN BAY-APPLETON, WI - NOCABLE	8.5	49.3%	$3.7	($0.3)
COLUMBIA, SC - COMCAST	8.5	46.5%	$4.4	$2.5
OTTUMWA, IA-KIRKSVILLE, MO - MEDIACOM	8.4	13.3%	$7.4	$6.1
TERRE HAUTE, IN - MEDIACOM	8.3	24.4%	$6.0	$4.1
WASHINGTON, DC (HAGERSTOWN, MD) - NOCABLE	8.2	53.1%	$3.2	($0.6)
BURLINGTON, VT-PLATTSBURGH, NY - NOCABLE	8.2	46.0%	$3.9	($0.4)
COLORADO SPRINGS-PUEBLO, CO - NOCABLE - OTHER	8.2	41.7%	$3.6	$2.1
MINNEAPOLIS-ST. PAUL, MN - NOCABLE	8.1	46.2%	$3.8	($0.1)
BUTTE-BOZEMAN, MT - NOCABLE	8.1	58.0%	$2.8	($0.7)
ROCHESTER, MN-MASON CITY, IA-AUSTIN, MN - NOCABLE - OTHER	8.0	27.7%	$4.6	$3.3
PORTLAND-AUBURN, ME - NOCABLE - OTHER	8.0	36.5%	$3.9	$2.5
LOS ANGELES, CA - MEDIACOM - OTHER	7.8	33.7%	$4.2	$3.5
IDAHO FALLS-POCATELLO, ID (JACKSON, WY) - NOCABLE	7.8	38.7%	$4.3	($0.1)
HARRISBURG-LANCASTER-LEBANON-YORK, PA - COMCAST - VERIZON - OTHER	7.8	12.6%	$5.0	$4.1
HUNTSVILLE-DECATUR (FLORENCE), AL - NOCABLE	7.8	58.8%	$2.6	($0.6)
KANSAS CITY, MO - MEDIACOM - OTHER	7.7	38.0%	$4.3	$3.1

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HUNTSVILLE-DECATUR (FLORENCE), AL - MEDIACOM	7.6	52.2%	$3.3	$2.2
GREAT FALLS, MT - NOCABLE - OTHER	7.6	26.7%	$4.7	$3.1
MANKATO, MN - NOCABLE - OTHER	7.6	27.5%	$4.3	$3.0
GAINESVILLE, FL - COMCAST	7.5	34.7%	$4.6	$1.9
MEMPHIS, TN - NOCABLE	7.5	61.3%	$2.3	($0.8)
MERIDIAN, MS - NOCABLE	7.5	40.2%	$4.0	($0.2)
SHERMAN, TX-ADA, OK - ALTICE	7.4	35.9%	$3.7	$1.8
BEAUMONT-PORT ARTHUR, TX - CHARTER - OTHER	7.4	32.5%	$4.8	$3.9
RENO, NV - CHARTER - OTHER	7.4	18.5%	$5.7	$5.1
ELMIRA (CORNING), NY - NOCABLE - OTHER	7.4	25.5%	$4.3	$3.1
SHERMAN, TX-ADA, OK - ALTICE - OTHER	7.4	39.8%	$3.5	$2.1
LOS ANGELES, CA - NOCABLE - OTHER	7.3	28.6%	$3.9	$2.5
FT. SMITH-FAYETTEVILLE-SPRINGDALE-ROGERS, AR - NOCABLE - OTHER	7.2	38.0%	$3.9	$1.3
DOTHAN, AL - CHARTER	7.2	32.3%	$5.0	$3.6
LOUISVILLE, KY - NOCABLE	7.2	46.6%	$3.4	($0.3)
CLARKSBURG-WESTON, WV - ALTICE - OTHER	7.2	19.6%	$4.8	$3.6
LAS VEGAS, NV - NOCABLE - OTHER	7.2	41.0%	$3.3	$2.0
CINCINNATI, OH - COMCAST	7.2	34.0%	$4.8	$3.2
SHERMAN, TX-ADA, OK - NOCABLE	7.1	37.3%	$4.0	($0.1)
QUINCY, IL-HANNIBAL, MO-KEOKUK, IA - COMCAST - OTHER	7.1	8.5%	$6.9	$5.1
BINGHAMTON, NY - NOCABLE - OTHER	7.1	30.9%	$3.8	$2.6
LAFAYETTE, LA - NOCABLE - OTHER	7.1	59.2%	$2.1	$0.4
DULUTH, MN-SUPERIOR, WI - NOCABLE	7.1	50.6%	$3.0	($0.3)
GREAT FALLS, MT - NOCABLE	7.1	40.2%	$3.8	($0.1)
OMAHA, NE - NOCABLE	7.1	41.4%	$3.7	($0.1)
ERIE, PA - CHARTER - OTHER	7.1	28.2%	$5.1	$4.1
BLUEFIELD-BECKLEY-OAK HILL, WV - CHARTER	7.0	28.8%	$5.6	$3.6
FT. SMITH-FAYETTEVILLE-SPRINGDALE-ROGERS, AR - NOCABLE	7.0	43.3%	$3.5	($0.3)
OKLAHOMA CITY, OK - ALTICE - OTHER	7.0	37.3%	$3.3	$1.9
ST. LOUIS, MO - MEDIACOM - OTHER	7.0	27.9%	$4.3	$3.5
NORTH PLATTE, NE - CHARTER	7.0	8.1%	$7.4	$5.4
MEDFORD-KLAMATH FALLS, OR - CHARTER - OTHER	7.0	13.4%	$5.8	$5.2
PHOENIX (PRESCOTT), AZ - COMCAST - OTHER	6.9	45.3%	$3.3	$2.2
AMARILLO, TX - NOCABLE	6.8	33.9%	$4.1	($0.1)
YAKIMA-PASCO-RICHLAND-KENNEWICK, WA - NOCABLE	6.8	42.4%	$3.5	($0.2)
TERRE HAUTE, IN - COMCAST - OTHER	6.8	27.8%	$4.8	$3.5
FT. WAYNE, IN - NOCABLE	6.8	47.1%	$3.1	($0.2)

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WICHITA-HUTCHINSON, KS PLUS - NOCABLE	6.7	41.8%	$3.5	($0.2)
MACON, GA - MEDIACOM	6.7	28.2%	$4.6	$3.6
CEDAR RAPIDS-WATERLOO-IOWA CITY & DUBUQUE, IA - NOCABLE	6.7	32.3%	$4.1	($0.0)
NEW ORLEANS, LA - COX - OTHER	6.6	46.5%	$3.0	$2.3
IDAHO FALLS-POCATELLO, ID (JACKSON, WY) - CHARTER	6.6	22.4%	$6.1	$3.4
RENO, NV - NOCABLE	6.6	51.9%	$2.7	($0.4)
CINCINNATI, OH - NOCABLE	6.6	47.6%	$3.0	($0.2)
RALEIGH-DURHAM (FAYETTEVILLE), NC - COMCAST	6.5	44.7%	$3.4	$1.9
MILWAUKEE, WI - CHARTER - OTHER	6.5	30.3%	$4.6	$3.7
GREENVILLE-NEW BERN-WASHINGTON, NC - MEDIACOM	6.5	47.5%	$3.1	$1.7
ALBANY-SCHENECTADY-TROY, NY - NOCABLE	6.5	54.9%	$2.4	($0.5)
HARRISBURG-LANCASTER-LEBANON-YORK, PA - NOCABLE	6.4	46.6%	$3.0	($0.3)
TRAVERSE CITY-CADILLAC, MI - CHARTER - OTHER	6.4	26.5%	$4.9	$4.0
PITTSBURGH, PA - CHARTER - OTHER	6.4	21.2%	$5.4	$4.2
ALEXANDRIA, LA - ALTICE - OTHER	6.4	36.6%	$3.3	$1.9
LANSING, MI - CHARTER - OTHER	6.4	26.7%	$4.7	$3.9
MEMPHIS, TN - CHARTER - OTHER	6.3	38.0%	$3.5	$2.8
TUCSON (SIERRA VISTA), AZ - NOCABLE - OTHER	6.2	31.1%	$3.5	$2.3
PEORIA-BLOOMINGTON, IL - NOCABLE - OTHER	6.2	35.4%	$3.2	$2.1
BLUEFIELD-BECKLEY-OAK HILL, WV - NOCABLE	6.1	48.1%	$2.7	($0.3)
NASHVILLE, TN - MEDIACOM - OTHER	6.1	15.6%	$4.3	$3.9
BILLINGS, MT - NOCABLE	6.1	40.2%	$3.2	($0.2)
EUREKA, CA - CHARTER	6.0	16.6%	$5.8	$3.7
MEMPHIS, TN - ALTICE	6.0	36.9%	$2.6	$1.2
HATTIESBURG-LAUREL, MS - NOCABLE	6.0	52.2%	$2.4	($0.3)
JOHNSTOWN-ALTOONA-STATE COLLEGE, PA - COMCAST - VERIZON - OTHER	6.0	15.9%	$4.2	$3.7
SPRINGFIELD, MO - CHARTER	5.9	16.2%	$6.6	$3.2
LOUISVILLE, KY - MEDIACOM - OTHER	5.8	32.4%	$3.4	$2.3
GREENVILLE-NEW BERN-WASHINGTON, NC - NOCABLE - OTHER	5.8	45.8%	$2.5	$1.2
KANSAS CITY, MO - ALTICE - OTHER	5.8	37.9%	$2.7	$1.5
WAUSAU-RHINELANDER, WI - NOCABLE	5.8	50.0%	$2.5	($0.3)
YOUNGSTOWN, OH - COMCAST - OTHER	5.7	25.0%	$4.3	$3.2
BOSTON, MA (MANCHESTER, NH) - NOCABLE	5.7	67.5%	$1.4	($0.9)
ROCHESTER, MN-MASON CITY, IA-AUSTIN, MN - CHARTER - OTHER	5.7	26.3%	$4.5	$3.4
FT. SMITH-FAYETTEVILLE-SPRINGDALE-ROGERS, AR - ALTICE - OTHER	5.7	34.5%	$2.9	$2.0
OMAHA, NE - MEDIACOM - OTHER	5.7	19.1%	$4.1	$3.8

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SEATTLE-TACOMA, WA - CHARTER	5.7	31.9%	$4.6	$3.2
MANKATO, MN - COMCAST - OTHER	5.6	12.8%	$4.9	$3.8
ST. LOUIS, MO - MEDIACOM	5.6	44.7%	$2.8	$2.0
NEW ORLEANS, LA - MEDIACOM	5.6	52.3%	$2.5	$1.7
EVANSVILLE, IN - NOCABLE	5.5	46.1%	$2.6	($0.2)
COLUMBUS-TUPELO-WEST POINT-HOUSTON, MS - NOCABLE	5.5	57.2%	$1.9	($0.3)
WHEELING, WV-STEUBENVILLE, OH - ALTICE	5.5	21.1%	$3.1	$2.1
JOPLIN, MO-PITTSBURG, KS - MEDIACOM	5.5	33.7%	$3.4	$2.1
PITTSBURGH, PA - NOCABLE	5.5	44.0%	$2.7	($0.2)
MARQUETTE, MI - CHARTER - OTHER	5.4	21.9%	$4.6	$3.4
CHICAGO, IL - NOCABLE - OTHER	5.4	39.8%	$2.6	$1.5
RENO, NV - ALTICE	5.4	16.6%	$2.9	$1.6
SAN DIEGO, CA - MEDIACOM	5.4	57.9%	$1.9	$0.1
MARQUETTE, MI - NOCABLE - OTHER	5.4	34.3%	$2.7	$1.7
GREENSBORO-HIGH POINT-WINSTON SALEM, NC - NOCABLE - OTHER	5.3	39.1%	$2.6	$1.5
PROVIDENCE, RI-NEW BEDFORD, MA - CHARTER	5.3	16.8%	$5.2	$2.3
CHEYENNE, WY-SCOTTSBLUFF, NE - NOCABLE - OTHER	5.3	7.9%	$4.2	$3.3
FT. WAYNE, IN - CHARTER	5.3	23.6%	$4.4	$3.2
FLINT-SAGINAW-BAY CITY, MI - COMCAST - OTHER	5.2	13.2%	$4.9	$2.7
MACON, GA - NOCABLE	5.2	37.3%	$2.9	($0.1)
SAN FRANCISCO-OAKLAND-SAN JOSE, CA - NOCABLE	5.1	58.0%	$1.8	($0.5)
OKLAHOMA CITY, OK - COX - OTHER	5.1	43.3%	$2.8	$2.0
SPOKANE, WA - COMCAST - OTHER	5.1	40.2%	$2.6	$1.5
FLINT-SAGINAW-BAY CITY, MI - NOCABLE - OTHER	5.1	31.3%	$2.9	$1.7
WILKES BARRE-SCRANTON-HAZLETON, PA - COMCAST - VERIZON	5.1	8.4%	$2.6	$2.6
DOTHAN, AL - COMCAST	5.0	33.7%	$3.3	$2.2
COLUMBUS-TUPELO-WEST POINT-HOUSTON, MS - MEDIACOM - OTHER	4.9	53.1%	$1.8	$0.5
WASHINGTON, DC (HAGERSTOWN, MD) - COX - VERIZON - OTHER	4.9	7.2%	$2.5	$2.7
ORLANDO-DAYTONA BEACH-MELBOURNE, FL - NOCABLE	4.9	51.2%	$2.0	($0.3)
DAVENPORT, IA-ROCK ISLAND-MOLINE, IL - NOCABLE	4.8	46.3%	$2.3	($0.2)
COLUMBUS, OH - ALTICE	4.8	45.8%	$1.9	$0.6
TOLEDO, OH - COMCAST	4.7	23.3%	$3.8	$2.6
TUCSON (SIERRA VISTA), AZ - NOCABLE	4.7	54.2%	$1.8	($0.3)
GREENVILLE-NEW BERN-WASHINGTON, NC - CHARTER - OTHER	4.6	34.7%	$3.0	$2.3
PARKERSBURG, WV - CHARTER	4.5	26.6%	$3.6	$2.6
MANKATO, MN - MEDIACOM - OTHER	4.5	26.1%	$2.8	$2.5

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WHEELING, WV-STEUBENVILLE, OH - NOCABLE	4.3	41.2%	$2.2	($0.1)
CLARKSBURG-WESTON, WV - NOCABLE	4.3	27.6%	$2.8	$0.1
FARGO-VALLEY CITY, ND - CHARTER - OTHER	4.3	17.3%	$3.9	$2.9
SAN ANGELO, TX - NOCABLE	4.3	15.2%	$3.4	$0.0
JOPLIN, MO-PITTSBURG, KS - NOCABLE	4.2	33.8%	$2.5	($0.0)
CASPER-RIVERTON, WY - NOCABLE - OTHER	4.1	15.4%	$3.0	$2.2
EUGENE, OR - NOCABLE	4.1	34.8%	$2.4	($0.1)
FLINT-SAGINAW-BAY CITY, MI - NOCABLE	4.1	43.1%	$2.0	($0.2)
CHICAGO, IL - MEDIACOM - OTHER	4.1	32.1%	$2.5	$2.1
COLUMBIA-JEFFERSON CITY, MO - ALTICE - OTHER	4.1	29.5%	$2.2	$1.6
ORLANDO-DAYTONA BEACH-MELBOURNE, FL - NOCABLE - OTHER	4.1	45.6%	$1.7	$0.9
MARQUETTE, MI - NOCABLE	4.1	53.3%	$1.6	($0.3)
ANCHORAGE, AK - NOCABLE	4.0	38.3%	$2.2	($0.1)
EL PASO, TX (LAS CRUCES, NM) - NOCABLE	4.0	50.1%	$1.7	($0.2)
KNOXVILLE, TN - NOCABLE	4.0	50.8%	$1.7	($0.2)
ALBANY, GA - NOCABLE	4.0	33.1%	$2.4	($0.1)
SAN DIEGO, CA - NOCABLE	4.0	58.2%	$1.4	($0.4)
WATERTOWN, NY - CHARTER - OTHER	3.9	32.0%	$2.5	$2.2
EVANSVILLE, IN - MEDIACOM	3.9	46.5%	$1.9	$1.0
HARTFORD & NEW HAVEN, CT - COX	3.9	12.5%	$4.0	$2.1
JACKSONVILLE, FL - NOCABLE	3.9	45.9%	$1.8	($0.2)
SPRINGFIELD-HOLYOKE, MA - NOCABLE	3.9	80.6%	$0.4	($1.4)
BANGOR, ME - CHARTER - OTHER	3.9	20.7%	$2.8	$2.4
LAFAYETTE, LA - NOCABLE	3.8	67.6%	$0.9	($0.6)
RALEIGH-DURHAM (FAYETTEVILLE), NC - NOCABLE	3.8	53.5%	$1.5	($0.2)
MACON, GA - COMCAST - OTHER	3.8	36.9%	$2.3	$1.4
ODESSA-MIDLAND, TX - NOCABLE	3.8	36.3%	$2.2	($0.1)
LAS VEGAS, NV - NOCABLE	3.8	55.0%	$1.4	($0.3)
ALEXANDRIA, LA - NOCABLE	3.7	46.7%	$1.7	($0.2)
SAVANNAH, GA - MEDIACOM	3.7	24.7%	$2.7	$1.9
PANAMA CITY, FL - NOCABLE	3.7	39.7%	$2.0	($0.1)
SOUTH BEND-ELKHART, IN - NOCABLE - OTHER	3.7	35.0%	$1.9	$1.2
LAKE CHARLES, LA - NOCABLE	3.7	62.6%	$1.1	($0.4)
SAVANNAH, GA - NOCABLE	3.7	49.1%	$1.6	($0.2)
TOPEKA, KS - MEDIACOM	3.7	41.1%	$2.0	$1.3
AMARILLO, TX - COMCAST - OTHER	3.6	28.8%	$2.5	$1.8
BOWLING GREEN, KY - COMCAST - OTHER	3.6	2.9%	$2.9	$2.6
PORTLAND-AUBURN, ME - NOCABLE	3.6	58.1%	$1.2	($0.3)

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WHEELING, WV-STEUBENVILLE, OH - CHARTER	3.6	33.4%	$2.5	$1.8
ELMIRA (CORNING), NY - NOCABLE - VERIZON - OTHER	3.6	17.9%	$1.9	$1.4
BURLINGTON, VT-PLATTSBURGH, NY - CHARTER - OTHER	3.6	15.4%	$3.2	$2.5
DETROIT, MI - NOCABLE	3.5	46.9%	$1.6	($0.2)
PADUCAH, KY-CAPE GIRARDEAU, MO-HARRISBURG, IL - COMCAST - OTHER	3.5	30.4%	$2.3	$1.8
ROANOKE-LYNCHBURG, VA - ALTICE	3.5	31.1%	$1.7	$0.9
DETROIT, MI - NOCABLE - OTHER	3.5	20.4%	$2.1	$1.3
ST. JOSEPH, MO - NOCABLE	3.5	50.7%	$1.5	($0.2)
CASPER-RIVERTON, WY - CHARTER - OTHER	3.5	6.7%	$3.5	$2.9
HARLINGEN-WESLACO-BROWNSVILLE-MCALLEN, TX - CHARTER - OTHER	3.5	33.0%	$2.3	$1.8
SAN DIEGO, CA - NOCABLE - OTHER	3.4	42.4%	$1.6	$0.9
GREENSBORO-HIGH POINT-WINSTON SALEM, NC - COMCAST	3.4	53.7%	$1.4	$0.6
GREENVILLE-SPARTANBURG, SC-ASHEVILLE, NC-ANDERSON, SC - NOCABLE	3.4	55.9%	$1.3	($0.3)
GRAND JUNCTION-MONTROSE, CO - NOCABLE	3.4	16.1%	$2.7	($0.0)
HARRISONBURG, VA - NOCABLE - OTHER	3.4	35.8%	$1.8	$1.1
GREENWOOD-GREENVILLE, MS - NOCABLE	3.4	56.8%	$1.2	($0.2)
BATON ROUGE, LA - CHARTER	3.4	23.8%	$3.0	$1.7
NASHVILLE, TN - ALTICE - OTHER	3.4	36.0%	$1.7	$1.1
INDIANAPOLIS, IN - CHARTER - OTHER	3.4	30.0%	$2.6	$1.9
BOWLING GREEN, KY - MEDIACOM	3.3	22.0%	$2.5	$1.2
GREENVILLE-NEW BERN-WASHINGTON, NC - MEDIACOM - OTHER	3.3	42.0%	$1.7	$1.2
CHARLESTON-HUNTINGTON, WV - COMCAST - OTHER	3.3	28.3%	$2.4	$1.7
MEMPHIS, TN - ALTICE - OTHER	3.3	41.3%	$1.6	$0.9
BOISE, ID - NOCABLE	3.3	43.0%	$1.7	($0.1)
DOTHAN, AL - NOCABLE - OTHER	3.3	32.1%	$1.9	$1.0
WILKES BARRE-SCRANTON-HAZLETON, PA - NOCABLE - VERIZON	3.3	14.9%	$0.9	$0.4
MACON, GA - MEDIACOM - OTHER	3.2	31.6%	$1.9	$1.5
BOSTON, MA (MANCHESTER, NH) - CHARTER - OTHER	3.2	12.5%	$2.7	$2.4
TERRE HAUTE, IN - NOCABLE	3.2	32.5%	$2.0	($0.0)
SIOUX CITY, IA - MEDIACOM	3.2	25.0%	$2.4	$1.9
SAN ANGELO, TX - NOCABLE - OTHER	3.2	13.8%	$2.4	$1.6
WICHITA FALLS, TX & LAWTON, OK - NOCABLE	3.1	36.2%	$1.8	($0.1)
LAREDO, TX - CHARTER - OTHER	3.1	26.3%	$2.5	$1.7
GLENDIVE, MT - NOCABLE - OTHER	3.1	17.0%	$2.0	$1.6
LIMA, OH - NOCABLE - OTHER	3.1	19.2%	$2.1	$1.6
NORFOLK-PORTSMOUTH-NEWPORT NEWS, VA - NOCABLE	3.1	59.0%	$1.0	($0.3)

Zone	Turner Subscribers (thousands)	DTV Share	Change in Rival MVPD costs per month (thousands)	Net Consumer effect per month (thousands)
WILKES BARRE-SCRANTON-HAZLETON, PA - NOCABLE	3.1	49.7%	$1.3	($0.2)
CHARLESTON, SC - NOCABLE	3.0	55.3%	$1.1	($0.2)
TRI-CITIES, TN-VA - NOCABLE	3.0	50.4%	$1.3	($0.2)
GRAND RAPIDS-KALAMAZOO-BATTLE CREEK, MI - NOCABLE	2.9	45.5%	$1.4	($0.1)
COLUMBUS, OH - NOCABLE	2.9	56.2%	$1.1	($0.2)
WILKES BARRE-SCRANTON-HAZLETON, PA - NOCABLE - VERIZON - OTHER	2.9	10.3%	$1.3	$1.2
MOBILE, AL-PENSACOLA (FT. WALTON BEACH), FL - NOCABLE - OTHER	2.9	43.5%	$1.4	$0.2
ROCHESTER, MN-MASON CITY, IA-AUSTIN, MN - MEDIACOM	2.9	32.8%	$1.8	$1.4
DOTHAN, AL - NOCABLE	2.8	33.9%	$1.7	($0.1)
AMARILLO, TX - ALTICE - OTHER	2.8	18.6%	$1.7	$1.3
DAVENPORT, IA-ROCK ISLAND-MOLINE, IL - COMCAST - OTHER	2.7	28.3%	$1.9	$1.3
RALEIGH-DURHAM (FAYETTEVILLE), NC - MEDIACOM	2.7	51.3%	$1.2	$0.8
PALM SPRINGS, CA - NOCABLE - OTHER	2.7	27.8%	$1.8	$1.1
EUREKA, CA - NOCABLE	2.7	54.1%	$1.0	($0.2)
EVANSVILLE, IN - COMCAST - OTHER	2.7	36.4%	$1.6	$1.2
RAPID CITY, SD - NOCABLE	2.7	34.8%	$1.6	($0.0)
COLUMBIA-JEFFERSON CITY, MO - MEDIACOM	2.6	42.0%	$1.4	$0.9
FT. WAYNE, IN - CHARTER - OTHER	2.6	25.4%	$2.0	$1.6
YAKIMA-PASCO-RICHLAND-KENNEWICK, WA - NOCABLE - OTHER	2.6	25.0%	$1.6	$1.2
JOHNSTOWN-ALTOONA-STATE COLLEGE, PA - NOCABLE	2.6	46.5%	$1.2	($0.1)
LAS VEGAS, NV - ALTICE - OTHER	2.6	36.7%	$1.1	$0.7
TERRE HAUTE, IN - COMCAST	2.6	24.1%	$2.0	$1.4
MACON, GA - COMCAST	2.6	30.6%	$1.7	$1.1
NASHVILLE, TN - ALTICE	2.5	48.4%	$1.1	$0.1
SIOUX FALLS(MITCHELL), SD - NOCABLE	2.5	29.3%	$1.6	$0.0
NORFOLK-PORTSMOUTH-NEWPORT NEWS, VA - CHARTER - OTHER	2.5	46.6%	$1.2	$0.7
AUGUSTA, GA-AIKEN, SC - NOCABLE	2.5	47.4%	$1.1	($0.1)
JUNEAU, AK - NOCABLE	2.5	79.2%	$0.3	($0.8)
TOPEKA, KS - NOCABLE	2.5	47.8%	$1.1	($0.0)
LANSING, MI - CHARTER	2.5	28.0%	$1.9	$1.4
COLUMBUS-TUPELO-WEST POINT-HOUSTON, MS - CHARTER	2.5	47.2%	$1.3	$0.7
SAN ANTONIO, TX - ALTICE	2.5	33.8%	$1.3	$0.5
NORFOLK-PORTSMOUTH-NEWPORT NEWS, VA - NOCABLE - OTHER	2.5	44.0%	$1.1	$0.6
ALEXANDRIA, LA - NOCABLE - OTHER	2.4	36.4%	$1.3	$0.7
CHARLOTTESVILLE, VA - NOCABLE	2.4	44.7%	$1.2	($0.1)
BLUEFIELD-BECKLEY-OAK HILL, WV - CHARTER - OTHER	2.4	28.9%	$1.8	$1.4

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HOUSTON, TX - CHARTER - OTHER	2.4	31.2%	$1.7	$1.3
GREENSBORO-HIGH POINT-WINSTON SALEM, NC - COMCAST - OTHER	2.4	50.3%	$1.0	$0.3
ROANOKE-LYNCHBURG, VA - COX - OTHER	2.4	34.7%	$1.3	$1.0
JOPLIN, MO-PITTSBURG, KS - COX - OTHER	2.4	18.8%	$1.8	$1.5
SHREVEPORT, LA - ALTICE - OTHER	2.4	32.8%	$1.2	$0.9
LA CROSSE-EAU CLAIRE, WI - NOCABLE	2.4	45.8%	$1.1	($0.1)
TAMPA-ST. PETERSBURG (SARASOTA), FL - NOCABLE - OTHER	2.4	7.4%	$1.6	$0.8
PANAMA CITY, FL - CHARTER - OTHER	2.4	24.4%	$1.7	$1.3
BATON ROUGE, LA - NOCABLE	2.3	65.2%	$0.6	($0.3)
MONTGOMERY-SELMA, AL - MEDIACOM	2.3	23.3%	$1.7	$1.1
ROCKFORD, IL - NOCABLE	2.3	46.1%	$1.1	($0.1)
JONESBORO, AR - NOCABLE	2.3	41.5%	$1.2	($0.0)
CHICAGO, IL - NOCABLE	2.3	49.5%	$1.0	($0.1)
BAKERSFIELD, CA - NOCABLE	2.3	57.6%	$0.8	($0.2)
SANTA BARBARA-SANTA MARIA-SAN LUIS OBISPO, CA - NOCABLE	2.3	54.4%	$0.9	($0.2)
SALISBURY, MD - CHARTER	2.3	41.7%	$1.4	$0.9
ALBANY-SCHENECTADY-TROY, NY - CHARTER - VERIZON - OTHER	2.2	12.8%	$1.6	$1.3
PEORIA-BLOOMINGTON, IL - NOCABLE	2.2	47.2%	$1.0	($0.1)
ROCHESTER, NY - CHARTER - OTHER	2.2	21.3%	$1.8	$1.4
CASPER-RIVERTON, WY - NOCABLE	2.2	22.6%	$1.6	($0.0)
JOPLIN, MO-PITTSBURG, KS - ALTICE - OTHER	2.2	29.2%	$1.2	$0.9
BUFFALO, NY - NOCABLE	2.2	54.6%	$0.8	($0.2)
SPRINGFIELD, MO - COX - OTHER	2.1	23.2%	$1.6	$1.1
LAFAYETTE, LA - CHARTER - OTHER	2.1	63.9%	$0.6	($0.0)
MONTEREY-SALINAS, CA - NOCABLE	2.1	52.4%	$0.8	($0.1)
CHICO-REDDING, CA - NOCABLE - OTHER	2.1	26.8%	$1.3	$0.8
YUMA, AZ-EL CENTRO, CA - NOCABLE - OTHER	2.1	39.0%	$1.0	$0.6
MERIDIAN, MS - MEDIACOM	2.1	37.3%	$1.3	$0.9
BIRMINGHAM (ANNISTON AND TUSCALOOSA), AL - MEDIACOM	2.0	55.1%	$0.8	$0.4
COLUMBUS, GA (OPELIKA, AL) - NOCABLE	2.0	51.9%	$0.8	($0.1)
CHARLOTTE, NC - NOCABLE	2.0	46.7%	$0.9	($0.1)
QUINCY, IL-HANNIBAL, MO-KEOKUK, IA - MEDIACOM - OTHER	2.0	17.8%	$1.6	$1.3
RALEIGH-DURHAM (FAYETTEVILLE), NC - ALTICE	2.0	34.7%	$0.9	$0.5
SYRACUSE, NY - NOCABLE - OTHER	1.9	41.8%	$0.9	$0.5
BALTIMORE, MD - NOCABLE - VERIZON - OTHER	1.9	26.9%	$0.6	$0.3
TALLAHASSEE, FL-THOMASVILLE, GA - NOCABLE - OTHER	1.9	40.1%	$1.0	$0.2

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BEND, OR - NOCABLE	1.9	63.5%	$0.5	($0.2)
MINOT-BISMARCK-DICKINSON (WILLISTON), ND - NOCABLE	1.9	34.3%	$1.1	($0.0)
NEW ORLEANS, LA - MEDIACOM - OTHER	1.9	58.8%	$0.6	$0.1
CLARKSBURG-WESTON, WV - CHARTER - OTHER	1.9	21.6%	$1.3	$0.8
CLEVELAND-AKRON (CANTON), OH - ALTICE	1.8	32.1%	$0.9	$0.5
EUGENE, OR - CHARTER - OTHER	1.8	22.1%	$1.5	$1.2
RICHMOND-PETERSBURG, VA - CHARTER	1.8	48.8%	$0.9	$0.6
LA CROSSE-EAU CLAIRE, WI - MEDIACOM	1.7	25.7%	$1.3	$1.0
EUREKA, CA - NOCABLE - OTHER	1.7	51.9%	$0.6	$0.2
BIRMINGHAM (ANNISTON AND TUSCALOOSA), AL - COMCAST - OTHER	1.7	38.6%	$0.9	$0.6
LEXINGTON, KY - NOCABLE	1.7	33.4%	$1.0	($0.0)
JACKSON, TN - NOCABLE	1.7	51.4%	$0.7	($0.1)
MADISON, WI - NOCABLE	1.7	37.9%	$0.9	($0.0)
SOUTH BEND-ELKHART, IN - MEDIACOM - OTHER	1.7	37.3%	$0.9	$0.7
SPOKANE, WA - CHARTER - OTHER	1.7	40.0%	$0.9	$0.5
OMAHA, NE - COX	1.7	27.9%	$1.3	$1.0
GREENVILLE-NEW BERN-WASHINGTON, NC - NOCABLE	1.7	56.1%	$0.6	($0.1)
GREENWOOD-GREENVILLE, MS - ALTICE - OTHER	1.6	42.2%	$0.7	$0.4
LAFAYETTE, IN - NOCABLE - OTHER	1.6	47.3%	$0.7	$0.2
MERIDIAN, MS - MEDIACOM - OTHER	1.6	40.0%	$0.8	$0.4
EL PASO, TX (LAS CRUCES, NM) - CHARTER - OTHER	1.6	44.7%	$0.7	$0.4
WICHITA-HUTCHINSON, KS PLUS - MEDIACOM - OTHER	1.6	29.0%	$1.1	$0.8
MANKATO, MN - MEDIACOM	1.6	36.4%	$1.0	$0.8
AMARILLO, TX - COMCAST	1.6	35.9%	$1.0	$0.6
CORPUS CHRISTI, TX - NOCABLE	1.6	59.0%	$0.5	($0.2)
RICHMOND-PETERSBURG, VA - COMCAST - OTHER	1.6	48.3%	$0.7	$0.4
OTTUMWA, IA-KIRKSVILLE, MO - MEDIACOM - OTHER	1.5	12.3%	$1.2	$1.1
ST. JOSEPH, MO - NOCABLE - OTHER	1.5	35.6%	$0.8	$0.5
BAKERSFIELD, CA - NOCABLE - OTHER	1.5	51.5%	$0.6	$0.1
OTTUMWA, IA-KIRKSVILLE, MO - NOCABLE	1.5	28.3%	$1.0	($0.0)
PALM SPRINGS, CA - NOCABLE	1.5	54.4%	$0.6	($0.1)
BUFFALO, NY - COMCAST	1.4	40.5%	$0.9	$0.6
BOWLING GREEN, KY - CHARTER - OTHER	1.4	17.3%	$1.1	$0.9
SALISBURY, MD - NOCABLE	1.4	65.3%	$0.4	($0.2)
ALBANY-SCHENECTADY-TROY, NY - COMCAST - OTHER	1.4	19.4%	$1.2	$0.8
FT. WAYNE, IN - NOCABLE - OTHER	1.4	30.5%	$0.8	$0.5
GREEN BAY-APPLETON, WI - MEDIACOM - OTHER	1.4	31.5%	$0.9	$0.5
TWIN FALLS, ID - NOCABLE	1.4	33.0%	$0.8	($0.0)

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JACKSON, TN - NOCABLE - OTHER	1.3	33.3%	$0.7	$0.4
LOUISVILLE, KY - MEDIACOM	1.3	32.1%	$0.8	$0.3
NORTH PLATTE, NE - NOCABLE - OTHER	1.3	13.1%	$1.0	$0.5
TOLEDO, OH - MEDIACOM	1.3	35.7%	$0.8	$0.5
MONROE, LA-EL DORADO, AR - COMCAST - OTHER	1.2	37.2%	$0.7	$0.3
CLEVELAND-AKRON (CANTON), OH - NOCABLE	1.2	47.2%	$0.6	($0.0)
PHILADELPHIA, PA - NOCABLE	1.2	71.1%	$0.2	($0.2)
NEW YORK, NY - NOCABLE	1.2	69.9%	$0.3	($0.2)
JACKSON, MS - COMCAST - OTHER	1.2	62.3%	$0.3	($0.0)
PHILADELPHIA, PA - NOCABLE - VERIZON	1.2	10.9%	$0.3	($0.0)
TAMPA-ST. PETERSBURG (SARASOTA), FL - NOCABLE	1.2	58.9%	$0.4	($0.1)
SPRINGFIELD, MO - MEDIACOM - OTHER	1.2	35.1%	$0.7	$0.4
ALPENA, MI - NOCABLE	1.2	27.7%	$0.8	($0.0)
FAIRBANKS, AK - NOCABLE	1.2	49.3%	$0.5	($0.1)
QUINCY, IL-HANNIBAL, MO-KEOKUK, IA - CHARTER - OTHER	1.1	13.6%	$1.0	$0.8
TOPEKA, KS - MEDIACOM - OTHER	1.1	32.1%	$0.7	$0.6
FRESNO-VISALIA, CA - ALTICE	1.1	27.5%	$0.6	$0.3
PALM SPRINGS, CA - MEDIACOM - OTHER	1.1	36.4%	$0.6	$0.5
LAFAYETTE, IN - NOCABLE	1.1	58.0%	$0.4	($0.1)
SIOUX FALLS(MITCHELL), SD - MEDIACOM	1.1	23.0%	$0.8	$0.7
RICHMOND-PETERSBURG, VA - COX - OTHER	1.1	41.9%	$0.5	$0.3
ROANOKE-LYNCHBURG, VA - CHARTER	1.0	46.2%	$0.5	$0.4
LOS ANGELES, CA - MEDIACOM	1.0	56.3%	$0.4	$0.1
MYRTLE BEACH-FLORENCE, SC - NOCABLE	1.0	53.3%	$0.4	($0.1)
WICHITA FALLS, TX & LAWTON, OK - ALTICE - OTHER	1.0	28.3%	$0.6	$0.3
ROANOKE-LYNCHBURG, VA - ALTICE - OTHER	1.0	29.9%	$0.5	$0.4
HARLINGEN-WESLACO-BROWNSVILLE-MCALLEN, TX - NOCABLE	1.0	55.4%	$0.4	($0.1)
BOWLING GREEN, KY - NOCABLE - OTHER	1.0	8.2%	$0.8	$0.6
YUMA, AZ-EL CENTRO, CA - NOCABLE	1.0	52.6%	$0.4	($0.0)
TALLAHASSEE, FL-THOMASVILLE, GA - CHARTER - OTHER	1.0	33.9%	$0.6	$0.5
HARRISONBURG, VA - NOCABLE	1.0	55.1%	$0.4	($0.0)
PRESQUE ISLE, ME - NOCABLE	0.9	27.1%	$0.6	($0.0)
EUGENE, OR - NOCABLE - OTHER	0.9	26.9%	$0.6	$0.3
ROCHESTER, MN-MASON CITY, IA-AUSTIN, MN - NOCABLE	0.9	43.0%	$0.5	($0.0)
GREEN BAY-APPLETON, WI - MEDIACOM	0.9	50.8%	$0.4	$0.1
ATLANTA, GA - COX	0.9	26.8%	$0.8	$0.4
SPRINGFIELD-HOLYOKE, MA - COX	0.9	8.0%	$1.0	$0.4
FARGO-VALLEY CITY, ND - NOCABLE	0.9	47.1%	$0.4	($0.0)

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SOUTH BEND-ELKHART, IN - NOCABLE	0.9	46.1%	$0.4	($0.0)
GAINESVILLE, FL - CHARTER	0.8	31.6%	$0.6	$0.4
PARKERSBURG, WV - NOCABLE	0.8	47.2%	$0.4	($0.0)
WATERTOWN, NY - NOCABLE	0.8	50.7%	$0.3	($0.0)
SIOUX CITY, IA - NOCABLE	0.8	32.1%	$0.5	($0.0)
PROVIDENCE, RI-NEW BEDFORD, MA - NOCABLE	0.8	81.0%	$0.1	($0.3)
DAYTON, OH - COMCAST - OTHER	0.8	17.3%	$0.5	$0.4
LANSING, MI - NOCABLE	0.8	42.3%	$0.4	($0.0)
YOUNGSTOWN, OH - NOCABLE	0.8	55.3%	$0.3	($0.1)
MILWAUKEE, WI - NOCABLE - OTHER	0.7	35.9%	$0.4	$0.2
TUCSON (SIERRA VISTA), AZ - COX - OTHER	0.7	38.2%	$0.4	$0.2
VICTORIA, TX - NOCABLE	0.7	35.4%	$0.4	$0.0
COLUMBUS, GA (OPELIKA, AL) - COMCAST - OTHER	0.7	44.0%	$0.4	$0.2
WATERTOWN, NY - NOCABLE - OTHER	0.7	29.7%	$0.4	$0.2
DULUTH, MN-SUPERIOR, WI - CHARTER - OTHER	0.7	55.9%	$0.3	$0.2
MIAMI-FT. LAUDERDALE, FL - NOCABLE	0.7	36.5%	$0.4	($0.0)
WICHITA-HUTCHINSON, KS PLUS - ALTICE	0.7	43.6%	$0.3	$0.1
ERIE, PA - NOCABLE	0.7	35.6%	$0.4	($0.0)
HATTIESBURG-LAUREL, MS - MEDIACOM - OTHER	0.6	40.7%	$0.3	$0.2
MILWAUKEE, WI - MEDIACOM - OTHER	0.6	32.0%	$0.4	$0.3
MONROE, LA-EL DORADO, AR - ALTICE - OTHER	0.6	32.0%	$0.4	$0.2
NORFOLK-PORTSMOUTH-NEWPORT NEWS, VA - COX - OTHER	0.6	47.3%	$0.3	$0.2
CHEYENNE, WY-SCOTTSBLUFF, NE - CHARTER - OTHER	0.6	10.1%	$0.5	$0.5
KANSAS CITY, MO - COX - OTHER	0.6	34.0%	$0.3	$0.3
RALEIGH-DURHAM (FAYETTEVILLE), NC - MEDIACOM - OTHER	0.6	56.3%	$0.2	$0.1
CHEYENNE, WY-SCOTTSBLUFF, NE - NOCABLE	0.6	15.7%	$0.5	$0.0
WILKES BARRE-SCRANTON-HAZLETON, PA - CHARTER	0.6	26.2%	$0.5	$0.3
SPRINGFIELD-HOLYOKE, MA - NOCABLE - OTHER	0.6	25.2%	$0.3	$0.2
WICHITA FALLS, TX & LAWTON, OK - CHARTER - OTHER	0.6	29.5%	$0.4	$0.3
SYRACUSE, NY - NOCABLE	0.6	53.4%	$0.2	($0.0)
HELENA, MT - NOCABLE - OTHER	0.5	20.1%	$0.3	$0.3
WASHINGTON, DC (HAGERSTOWN, MD) - NOCABLE - VERIZON	0.5	28.8%	$0.1	($0.0)
FT. MYERS-NAPLES, FL - NOCABLE	0.5	59.7%	$0.2	($0.1)
HELENA, MT - NOCABLE	0.5	33.4%	$0.3	($0.0)
CHARLESTON, SC - CHARTER	0.5	44.1%	$0.3	$0.2
PHOENIX (PRESCOTT), AZ - COMCAST	0.5	33.5%	$0.4	$0.2
YOUNGSTOWN, OH - ALTICE	0.5	27.5%	$0.2	$0.1

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HARLINGEN-WESLACO-BROWNSVILLE-MCALLEN, TX - NOCABLE - OTHER	0.5	45.1%	$0.2	$0.1
TOLEDO, OH - NOCABLE	0.5	48.1%	$0.2	($0.0)
GREENSBORO-HIGH POINT-WINSTON SALEM, NC - NOCABLE	0.5	58.6%	$0.2	($0.0)
BILOXI-GULFPORT, MS - NOCABLE	0.5	58.9%	$0.2	($0.0)
NORTH PLATTE, NE - NOCABLE	0.5	13.0%	$0.4	$0.0
BINGHAMTON, NY - NOCABLE	0.5	60.1%	$0.1	($0.0)
ABILENE-SWEETWATER, TX - ALTICE - OTHER	0.5	42.3%	$0.2	$0.0
MONTEREY-SALINAS, CA - ALTICE	0.4	36.2%	$0.2	$0.1
CLARKSBURG-WESTON, WV - COMCAST - OTHER	0.4	19.6%	$0.3	$0.2
BUTTE-BOZEMAN, MT - NOCABLE - OTHER	0.4	32.7%	$0.2	$0.1
WILMINGTON, NC - NOCABLE	0.4	62.3%	$0.1	($0.0)
PANAMA CITY, FL - NOCABLE - OTHER	0.4	29.6%	$0.2	$0.1
LAREDO, TX - NOCABLE	0.3	57.3%	$0.1	($0.0)
COLUMBIA-JEFFERSON CITY, MO - ALTICE	0.3	48.6%	$0.1	$0.0
ELMIRA (CORNING), NY - NOCABLE	0.3	45.4%	$0.2	($0.0)
PARKERSBURG, WV - NOCABLE - OTHER	0.3	45.7%	$0.1	$0.0
BOWLING GREEN, KY - NOCABLE	0.3	24.4%	$0.2	($0.0)
MISSOULA, MT - NOCABLE - OTHER	0.3	27.6%	$0.2	$0.1
WASHINGTON, DC (HAGERSTOWN, MD) - COX	0.3	6.2%	$0.3	$0.1
LOS ANGELES, CA - ALTICE - OTHER	0.3	34.1%	$0.1	$0.1
PITTSBURGH, PA - CHARTER	0.2	24.4%	$0.2	$0.1
HARTFORD & NEW HAVEN, CT - NOCABLE	0.2	55.5%	$0.1	($0.0)
UTICA, NY - NOCABLE	0.2	57.8%	$0.1	($0.0)
PITTSBURGH, PA - NOCABLE - VERIZON	0.2	10.7%	$0.1	$0.1
AUSTIN, TX - ALTICE - OTHER	0.2	30.4%	$0.1	$0.0
NORFOLK-PORTSMOUTH-NEWPORT NEWS, VA - MEDIACOM - VERIZON	0.2	12.3%	$0.1	$0.1
MANKATO, MN - NOCABLE	0.2	57.3%	$0.1	($0.0)
UTICA, NY - CHARTER - OTHER	0.1	21.4%	$0.1	$0.1
BALTIMORE, MD - NOCABLE	0.1	64.6%	$0.0	($0.0)
PHOENIX (PRESCOTT), AZ - MEDIACOM	0.1	35.8%	$0.1	$0.0
ROCHESTER, NY - NOCABLE	0.1	43.7%	$0.1	($0.0)
LIMA, OH - NOCABLE	0.1	48.5%	$0.0	($0.0)
COLUMBUS, OH - NOCABLE - OTHER	0.1	2.6%	$0.1	$0.1
LAREDO, TX - NOCABLE - OTHER	0.1	54.5%	$0.0	$0.0
MILWAUKEE, WI - NOCABLE	0.1	55.8%	$0.0	($0.0)
DAYTON, OH - NOCABLE	0.1	70.0%	$0.0	($0.0)
SPRINGFIELD, MO - ALTICE - OTHER	0.1	21.8%	$0.1	$0.0

Zone	Turner Subscribers (thousands)	DTV Share	Change in Rival MVPD costs per month (thousands)	Net Consumer effect per month (thousands)
CHATTANOOGA, TN - NOCABLE	0.1	36.5%	$0.0	($0.0)
YOUNGSTOWN, OH - ALTICE - OTHER	0.1	22.6%	$0.0	$0.0
WEST PALM BEACH-FT. PIERCE, FL - NOCABLE	0.1	55.0%	$0.0	($0.0)
FT. MYERS-NAPLES, FL - NOCABLE - OTHER	0.0	22.4%	$0.0	$0.0
NEW YORK, NY - NOCABLE - VERIZON	0.0	22.3%	$0.0	($0.0)
HONOLULU, HI - NOCABLE	0.0	35.7%	$0.0	($0.0)
ATLANTA, GA - COX - OTHER	0.0	39.4%	$0.0	$0.0
LAFAYETTE, LA - ALTICE - OTHER	0.0	36.6%	$0.0	$0.0
SANTA BARBARA-SANTA MARIA-SAN LUIS OBISPO, CA - NOCABLE - OTHER	0.0	21.9%	$0.0	$0.0
BOSTON, MA (MANCHESTER, NH) - COX	0.0	15.6%	$0.0	$0.0
TRI-CITIES, TN-VA - ALTICE - OTHER	0.0	23.8%	$0.0	$0.0
SAN FRANCISCO-OAKLAND-SAN JOSE, CA - ALTICE	0.0	21.3%	$0.0	$0.0
BALTIMORE, MD - NOCABLE - VERIZON	0.0	39.4%	$0.0	($0.0)
INDIANAPOLIS, IN - MEDIACOM - OTHER	0.0	22.0%	$0.0	$0.0
ZANESVILLE, OH - NOCABLE	0.0	66.4%	$0.0	($0.0)
MONTEREY-SALINAS, CA - NOCABLE - OTHER	0.0	47.5%	$0.0	$0.0
HATTIESBURG-LAUREL, MS - COMCAST - OTHER	0.0	64.9%	$0.0	$0.0
SAN ANGELO, TX - ALTICE - OTHER	0.0	49.3%	$0.0	$0.0
WEST PALM BEACH-FT. PIERCE, FL - NOCABLE - OTHER	0.0	20.7%	$0.0	$0.0
BOSTON, MA (MANCHESTER, NH) - NOCABLE - VERIZON - OTHER	0.0	22.5%	$0.0	$0.0
HONOLULU, HI - COX	0.0	24.9%	$0.0	$0.0
CHARLOTTESVILLE, VA - COMCAST - OTHER	0.0	50.6%	$0.0	$0.0
CLEVELAND-AKRON (CANTON), OH - ALTICE - OTHER	0.0	26.8%	$0.0	$0.0
SACRAMENTO-STOCKTON-MODESTO, CA - COX	0.0	42.7%	$0.0	$0.0
ZANESVILLE, OH - COMCAST	0.0	39.0%	$0.0	$0.0
MEMPHIS, TN - COX	0.0	48.8%	$0.0	$0.0
HARRISONBURG, VA - ALTICE - OTHER	0.0	22.6%	$0.0	$0.0