

Pantelis Michalopoulos
202 429 6494
pmichalopoulos@steptoe.com



1330 Connecticut Avenue, NW
Washington, DC 20036-1795
202 429 3000 main
www.steptoe.com

REDACTED – FOR PUBLIC INSPECTION

December 21, 2018

By ECFS

Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Notice of Ex Parte Meeting, Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations, WT Docket No. 18-197

Dear Ms. Dortch:

On December 19, 2018, representatives of DISH Network Corporation¹ met with members of the FCC Transaction Team listed in Attachment A to discuss the Further Reply Declaration of the Brattle Group prepared in response to the Applicants' November economic submission (the "Cornerstone Report") in the above-captioned proceeding.² DISH's economists discussed the presentation enclosed as Attachment B.

During the meeting, DISH's economists reiterated that the Cornerstone Report confirms that this transaction will lead to *higher prices* for tens of millions of consumers. In addition, DISH's economists explained the flaws in Cornerstone's methodology, consistent with the analysis contained in the Further Reply Declaration. Among other things, DISH's economists noted that Compass Lexecon's claimed 5G marginal cost savings supposedly occurring in the future cannot be used to offset the price increases to be faced by a 4G LTE subscriber

¹ Participating for DISH were Jeffrey Blum, Senior Vice President, Public Policy & Government Affairs, Alison Minea, Director & Senior Counsel, Regulatory Affairs, and Hadass Kogan, Corporate Counsel (for the public portion of the discussion only). Also present were Pantelis Michalopoulos and Andrew Golodny of Steptoe & Johnson, LLP, and William Zarakas, Jeremy Verlinda, and Coleman Bazelon of the Brattle Group.

² See Further Reply Declaration of Coleman Bazelon, Jeremy Verlinda, and William Zarakas, DISH Comments in Response to Public Notice Regarding Cornerstone Report, WT Docket No. 18-197 (Dec. 4, 2018).

immediately, and that even the absurdly high values that consumers attach to tiny quality improvements under Cornerstone's analysis are not enough for most customers to cover the price increases Cornerstone itself estimates.

DISH also expressed its preliminary views of the Applicants' most recent economic submission, which contains Cornerstone's response to DISH's criticism of the Cornerstone Report.³ DISH plans to submit a more detailed filing responding to Cornerstone's reply. But, DISH noted that, as an initial matter, Cornerstone's response is woefully inadequate. Cornerstone appears to hang its case for the merger on the view that low-income customers are more willing to stomach price increases than DISH and the Brattle Group give them credit for, because they may be more likely to "heavily rely on their smartphone for their communications and media consumption."⁴ This is as tone-deaf as it is wrong. But equally important, it leaves DISH's main criticism of Cornerstone entirely unrebutted. Using the price increases estimated by Cornerstone itself, and the willingness of consumers to pay for price increases calculated by Cornerstone (no matter how astronomically high this amount is), DISH has shown that the willingness to pay for price increases falls far short of the price increases, both for the median customer of the Applicants, and for the majority of the customers. Cornerstone does not dispute DISH's showing.

Finally, DISH notes that a year-end celebratory press release from Sprint further belies the Applicants' claims that Sprint is a struggling firm that needs a merger to save it and to enable a transition to 5G. Sprint touts "a banner year for the Sprint network" in which it made "a massive investment to drive strong improvements in our network performance."⁵ These investments include:

- "Tens of thousands of macro site upgrades to use our three spectrum bands."
- "More than 25,000 mini macros and strand mounts deployed across the country, marking an incredible increase in small cell deployments."
- "Hundreds of Massive MIMO radios deployed."⁶

Sprint indicates that it is on-track to deploy its mobile 5G service in 2019 in Atlanta, Chicago, Dallas, Houston, Kansas City, Los Angeles, New York City, Phoenix and Washington, D.C. It will be aided in this task through its Massive MIMO radios, which will be "the foundation for our 5G network, only requiring a software upgrade to provide split mode service."⁷

³ See Response to DISH and CWA Comments, John Asker, Timothy F. Bresnahan, and Kostis Hatzitaskos, Attachment A to Letter from Nancy Victory, T-Mobile Counsel to Marlene Dortch, FCC, WT Docket No. 18-197 (Dec. 18, 2018).

⁴ *Id.* ¶ 59.

⁵ See John Saw, *Celebrating a Year of Sprint Network Milestones on our Path to 5G* (Dec. 18, 2018), <https://newsroom.sprint.com/2018-milestones-on-path-to-5g.htm>.

⁶ *Id.*

⁷ *Id.*

DISH has denoted with **{{BEGIN HCI END HCI}}** information that is deemed to be Highly Confidential Information pursuant to the *Protective Order* and denoted with **{{BEGIN NRUF/LNP HCI END NRUF/LNP HCI}}** information that is deemed to be Highly Confidential Information pursuant to the *NRUF/LNP Protective Order*. A public, redacted version of this filing is being filed with the Commission.⁸

Please contact me with any questions.

Respectfully submitted,

/s
Pantelis Michalopoulos
Counsel to DISH Network Corporation

⁸ Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations, *Protective Order*, WT Docket No. 18-197, DA 18-624 (June 15, 2018); Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations, *NRUF/LNP Protective Order*, WT Docket No. 18-197, DA 18-777 (July 26, 2018).

Attachment A

Pramesh Jobanputra
Patrick Sun
David Lawrence
Ziad Sleem
John Hewl
Matt Collins
Eugene Kiselev
Jim Bird
Bill Dever
Joel Rabinovitz
Catherine Matraves
David Sibley
Garnet Hanly
Aleksandr Yankelevich
Jonathan Campbell
Weiren Wang
Katherine LoPiccalo
Charles Mathias
Paul LaFontaine
Sean Sullivan
Nick Copeland

Attachment B

Further Economic Analysis of the Proposed Sprint/T-Mobile Merger

PRESENTED TO
Federal Communications Commission

PRESENTED BY
Coleman Bazelon
Jeremy Verlinda
William Zarakas

December 19, 2018

THE **Brattle** GROUP

Summary of Conclusions

- The Cornerstone model, like the Compass model and the initial Brattle declaration models, predicts significant price increases from the merger
- Cornerstone presents no reliable evidence that these price effects will be offset by any claimed efficiencies
- Cornerstone’s estimates of the willingness to pay (“WTP”) for small improvements in LTE speeds are non-credible
 - **{{BEGIN HCI** **END HCI}}**
 - Likely biased significantly upwards
 - Significantly lower for most subscribers, including lower-income subscribers
 - Cornerstone presents hypothetical scenarios for quality improvements in New T-Mobile’s LTE network, which have no support from Cornerstone or Applicants’ filings
 - Even at overstated values, Cornerstone’s estimates of WTP for assumed improvements do not offset harm from price increases predicted by Cornerstone’s itself

Summary of Conclusions

Cornerstone's calculations of WTP for LTE service improvements are incomplete and overstated

- Cornerstone's demand model for LTE service omits key decision variables that are correlated with quality (plan prices, plan types, retail store locations, etc.)
 - Upwards bias in WTP estimates
 - Additional bias from assuming fixed, "exogenous" network quality
- Cornerstone does not appropriately account for sensitivity to consumer income in its WTP analysis
 - WTP shrinks by as much as 15% on average for non-premium brands, and are approximately 30% lower for the bottom income quartile of subscribers
- Cornerstone's WTP estimates are also inflated as a result of arbitrary segmentation of subscribers by data usage types –
 - They combine "heavy" and "very heavy" data users into one segment, which overstates WTP for "heavy" data users considerably.

Summary of Conclusions

Price increases in the Cornerstone model are not offset by efficiencies

- Price increases are highest for Sprint and for “non-premium” brand subscribers
- Cornerstone errs by calculating merger welfare effects (compensating variation) using a combination of 4G/LTE demand modeling with 5G marginal cost efficiencies
 - Even if, in error, 5G network marginal cost efficiencies are applied to the Cornerstone model, Sprint and Boost/Virgin subscribers would continue to be harmed by the merger
- Under Cornerstone’s “Best-of-Both” scenario for network quality improvements, the estimated median WTP does not offset price increases
- Cornerstone predicted price increases exceed WTP for quality improvements by more than **{{BEGIN HCI END HCI}}** for low-income vs high-income subscribers

The calculated diversion ratios in the Cornerstone report imply substitution patterns across carriers that are inconsistent with claimed network quality differences

Summary of Conclusions

Cornerstone presents a consumer welfare analysis that obfuscates harm to millions of wireless subscribers

- Both Cornerstone and Compass aggregate welfare losses with welfare gains across all subscribers
- But in these hypothetical cost efficiency scenarios, Sprint and prepaid subscribers face price increases while T-Mobile subscribers face price decreases
- The Applicants' effectively advocate for a wealth transfer from some customers to others -- from lower income customers to higher income, and from lower-data users to heavier data users

Retail Market Price Effects in the Cornerstone Model

The Cornerstone and Compass Models Predict Similar, Significant Price Effects

Price increases in the Compass and Cornerstone Model are more than {{BEGIN HCI
END HCI}} as those predicted in the initial Brattle declaration

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Willingness to Pay for Network Quality Improvements in the Cornerstone Model

Cornerstone Overstates the Willingness to Pay for Network Quality Improvements

- Omitted Variables and Endogeneity Concerns
 - Omission of plan prices across brands creates upward bias due to correlation in prices and network quality
 - Omission of plan features, including streaming benefits for unlimited plans, creates upward bias due to correlation in data use and network quality
 - Omission of location of retail stores, intensity of local advertising creates upward bias due to correlation in store locations, advertising and network quality
 - Network design and buildout is jointly determined with expected demand (brand choice, plan choice, and intensity of use)
- Income Effects
 - Cornerstone’s demand model includes brand-level income effects, but assumes (un-modeled) prices to have no income effects
 - Modest revision of the model to explicitly address income effects on price sensitivity shows that low-income subscribers have sharply reduced WTP estimates and are significantly harmed
- Data Use Types
 - Cornerstone arbitrarily aggregates subscribers using **{{BEGIN HCI** **END HCI}}** or more into a single category
 - Splitting “heavy” data users into **{{BEGIN HCI** **END HCI}}** reveals substantially lower WTP for about half of Cornerstone’s “heavy” data types.

Cornerstone's Treatment of Income Effects Overstates WTP for Lower-Income Subs

Lower-income subscribers have lower WTP for a {{BEGIN HCI
END HCI}} speed improvement (similar results for coverage improvements)

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END HCI}}

WTP for “heavy” data users is inflated due to aggregation of “heavy” data users into a single segment

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**Cornerstone codes data users above
{{BEGIN HCI END HCI}}
as “Heavy” data users,
approximately half of whom are
above {{BEGIN HCI END HCI}}
with a very long tail**

**WTP for users to the left of the
distribution are much lower than for
the very heavy users on the right**

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Overstatement of WTP for “heavy” data users

WTP for a {{BEGIN HCI}} speed improvement for “heavy” data users is inflated across income levels

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Cornerstone's Network Improvement Scenarios are Unsupported by Evidence

Cornerstone considers several scenarios of network quality improvements:

- LTE speeds increase by 10%
- LTE speeds increase by 0.10 Mbps
- “Best of Both”
 - T-Mobile LTE speeds increase to Sprint levels when lower
 - Sprint LTE coverage increases to T-Mobile levels when lower
- New T-Mobile LTE speed/coverage increase to Verizon levels

Cornerstone neither conducts nor relies upon any engineering models as evidence of network quality improvements.

Network quality improvements for 5G service, as discussed in the Ray and Compass models, have no bearing on possible 4G/LTE efficiencies

- User experiences in the NMP data are incomparable to theoretical user throughput
 - NMP average LTE speeds of {{BEGIN HCI END HCI}}
 - Ray model 2021 LTE speeds of {{BEGIN HCI END HCI}}

Cornerstone's "Best of Both" Scenario

Sprint Quality Improvements in the Cornerstone "Best-of-Both" Scenario

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T-Mobile Quality Improvements in Cornerstone "Best-of-Both" Scenario

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Source: Cornerstone Backup Materials.

The Cornerstone Price Increases Exceed WTP for Network Improvements

Under Cornerstone's WTP estimates, the merger increases prices in the "Best of Both" scenario that exceed the WTP for network improvements

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Lower-Income Subscribers are Disproportionately Harmed by the Merger

Adjusting the Cornerstone model to address its underlying income effects, low-income subscribers have even lower WTP for network improvements

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Marginal Cost Efficiencies in the Cornerstone Model

Even Under Incorrect 5G Cost Efficiencies, Cornerstone Predicts Price Increases

For the sake of argument, combining Cornerstone's predicted price increase with IKK's estimates of marginal cost savings nonetheless indicates price increases across many brands.

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The Cornerstone Model Requires Large Offsetting Cost Efficiencies for All Brands

The “cost efficiency frontier” (reproduced from Cornerstone’s report) indicates that specific segments of subscribers will be harmed by the merger – even if harm is neutralized on an aggregate basis.

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