BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION

In the Matter of: Protecting the Privacy of Customers of Broadband and Other Telecommunications Services	WC Docket No. 16-106

REPLY COMMENTS OF FARCE

I. Introduction

Free All Refuse from Commercial Exploitation (FARCE) drafts these reply comments to provide feedback to the FCC regarding the Commission's proposed privacy rule. FARCE is dedicated to protecting people's garbage from commercial exploitation, and we believe the FCC has a role to play in this fight.

If some of our arguments seem familiar, that is because we build on the towering work of a brave coalition of advocacy groups which fight a similar battle to protect consumers from themselves.[1]

II. Trash Collectors Occupy a Unique Gatekeeper Position in The Garbage Ecosystem

Trash collectors are gatekeepers to garbage. This position is unique to trash collectors, and carries substantial implications for consumers. While garbage comes from many sources, and splinters among dumps at the edge, *all* garbage — sensitive, nonsensitive, and everything in between — must pass through the hands of a trash collector.

When garbage is commodified, this is a very lucrative position to occupy — and the economic reality of the American trash collector market, with its market concentrations that tend toward monopoly, means that there has been zero competition (meaningful or otherwise) on the

[1] *See, e.g.*, Comments of Public Knowledge, *et al.*, WC Docket No. 16-106 (May 27, 2016), https://ecfsapi fcc.gov/file/60002080037.pdf

privacy axis.[2] Barring a radical reorganizing of the garbage market as it exists, consumers have no means of exercising control over their trash or preventing it from being collected, packaged, and monetized by their trash collectors. No such collector enjoys an unfettered right to abuse its market position in one line of business (trash collection) to gain a competitive advantage in a separate line of business — and it most certainly does not enjoy the right to do so without regard to the wishes of those customers whose personal garbage is being leveraged.

The different ways that trash collectors can exploit the information that consumers must expose as part of receiving service — as well as the certainty that the most sensitive information will flow, sometimes literally, into the trucks of the collectors — justify designing unique privacy protections for trash collectors. The FTC's privacy approach — that consumer privacy is best served by holding companies to their promises — is rooted in a model that fundamentally assumes a competitive market and robust consumer choice. Trash collection is not, however, a freely competitive market, as we have already asserted repeatedly.[3] Having thereby proven that the market for trash collectors is not competitive, we need not demonstrate that the long-standing and generally successful FTC approach to privacy has failed to protect trash collection subscribers.

A. The Value and Power of User Garbage

A trash collector provider can paint a detailed composite portrait of a user's life solely from basic trash characteristics such as weight, composition, and smell. As a Princeton University expert[4] recently explained in a letter to FCC Chairman Wheeler, "[w]e can learn so much from this

[2] We aren't going to offer any actual evidence of market concentration because we're not actual economists, but we know some of their words. In any case, evidence doesn't matter. As the D.C. Circuit recently held in *US Telecom v. FCC*, plausible-sounding agency rhetoric need not be supported by actual evidence. *United States Telecom Ass'n v. FCC*, ___ F.3d ___, 2016 WL 3251234, *44 (D.C. Cir. June 14, 2016).

[3] *Supra* everything above. QED.

[4] Set in scenic New Jersey, a state renowned for its expertise in managing trash.

garbage that we've written papers with conclusions about human behavior solely based on our analysis of the garbage that trash collectors can see."

The composition of trash reveals a great deal about its producer: empty ice cream cartons, tossed job applications, discarded pregnancy tests, or junked receipts for expensive dinners paint very different (and deeply private) images of a customer's life.

Scents often reveal the exact nature of the garbage, even without deep packet inspection. Disposable diapers, latex, cat litter, and certain foods, for example, are all easily identified by scent. A pattern of smells can thus reliably reveal the subscriber's interests or line of work. If, for example, a trash collector notices a subscriber frequently disposing of fishy-smelling garbage on Fridays, then the provider could easily infer that the subscriber is likely an observant Catholic, since Catholics traditionally eat seafood on Fridays.

At an even more basic level, the mere volume of garbage can reveal data about a subscriber. Indeed, volume of garbage can be a matter of great personal privacy, such as when a couple decides to move in together and consolidates their belongings - or when a suddenly ended relationship results in the "trashing" of a partner's belongings. Garbage volume can reveal when a subscriber is at home or on vacation. It can reveal a person's environmental beliefs (how much recycling?), or unexpected changes in lifestyle, such as holidays, new relationships, or lost jobs — all without the need for deep packet inspection.

1. The increasing importance of predictive analysis creates a market for trash collectors' uniquely granular data

Before addressing the specifics of the NPRM, it is important to lay out the role that the rise of predictive advertising has had in the explosion of the data commodity market in recent years. Online advertising's most significant trend since 2014 is programmatic ad buying. Also called "predictive marketing" or "predictive analytics," this approach uses the numerous data points

associated with an individual's behavior to predict with precision when, how, and on what device to deliver an advertisement so as to maximize the likelihood of success.

What makes predictive marketing work is the broad net it casts both in terms of what behavior is considered valuable. No fact is considered too trivial or too far afield. Any garbage, especially when collected over time, enriches the profile. Indeed, household garbage contains precisely the kind of granular information that particularly enhances the predictive power of marketing analytics. Increasingly, advertisers prize the power of predictive advertising because it massively improves results over behavioral advertising.[5]

While trash collectors are not yet significant participants in the cross-platform advertising business, the demand for the kind of granular data that only trash collectors can provide will drive the largest providers to invest enormous amounts of money in the technical capacity to harvest consumer trash, analyze it, and monetize it.

By assuming important facts about the future of the modern information marketplace given the dramatic rise of predictive marketing over the last two years, we observe that:

1. Trash collectors do have a unique perspective on consumer activity that is different from that of other providers in the information ecosystem;
2. This unique perspective confers enormous financial and anti-competitive benefits to trash collectors in the manner Congress intended to prohibit; and,
3. It does so because predictive analytics works by accumulating as many data points over time about the target.

This last point is extremely important because we worked really hard on it.

[5] That is, predictive advertising improves results because many foolish consumers actually *prefer* receiving ads for products that they want rather than ads for irrelevant products. Thus, predictive advertising succeeds because it gives these foolish consumers what they want. The FCC must act to ensure that such consumers cannot make fools of themselves by preferring predictive ads.

2. The real value of trash collector data

The data collected by trash collectors is enormously commercially valuable in and of itself. Trash collectors could, however, use their position to enhance the value of the data in two unique ways.

Consider the following example of a single adult individual who subscribes to a trash collector for weekly trash pickup. Let us assume that subscriber Jane Doe decides to get a job at a progressive interest group. Investigating online (using Google), Jane decides that she will subscribe to *Jacobin* magazine to familiarize herself with the rhetorical verve of the left. Jane flushes her cookies and uses encryption like a technologically savvy, privacy conscious consumer. She then goes to Amazon and subscribes to *Jacobin* and *Highlights for Children*, and goes to BarnesandNobel.com to purchase the book "Harold and the Purple Crayon."[6]

Google, of course, knows the nature of her search and may deduce by the pattern that Jane was interested in subscribing to *Jacobin*, possibly for herself and possibly for someone else. Because Jane is using encryption, Google should not be able to track her next activity. Even if Google does track her to Amazon, it may guess, but cannot be sure, that Jane subscribed to *Jacobin*. At this point, Google can collect no more information about this particular search/transaction.

Amazon, for its part, knows that Jane subscribed to *Jacobin* and *Highlights for Children*; that they are not gifts (or at least not ordered as a gifts); and that the issues arrived at her house at such-and-such a date at such and-so a time. If Jane decides to come back and write a review of the magazines, Amazon will know that as well. But otherwise, Amazon is likewise finished with studying Jane and her magazines.

[6] Best stanza: "Felled Harold with his Purple Crayon / Many a crudely drawn straw man. / Up late illustrating illusory lands / Tracing turkeys around the invisible hand."

Jane's trash collector, on the other hand, is only just getting started on what it knows about Jane and her job pursuit. The trash collector, of course, know that Jane subscribed to the magazines, because it sees the discarded issues in the trash. It can extrapolate from the condition of the magazines which articles she poured over, cried over, highlighted, earmarked, and tore out. It also knows she ordered the book from Amazon because she threw out her packing slip in the Amazon box. Furthermore, it sees the draft resumes and receipts for new interview clothes. It sees the massive number of Starbucks cups Jane has consumed as she studies for the intellectual rigors of a job in Big Populism. It sees the discarded pill bottles for Ambien that Jane uses to fall asleep despite her anxiety over the desperate plight of the clueless American consumer.

Amazon and Google can never know this information. They know nothing about Jane's garbage, and therefore, almost nothing about her life. But let us pretend that somehow Google and Amazon were able to know everything Jane's trash collector knows. This would not diminish the value of the collector's information. Not only would it spare the collector the expense of buying the information from someone else so that it could insert its own advertising, but the trash collector's information would still retain independent value to third party data brokers. Remember, the value of predictive marketing comes in the volume of information. Having multiple confirmations from multiple sources, e.g., Google, Amazon and the trash collector, enhances the ability to predict Jane's behavior.

It is important to stress this is but one, simplified example. The *Jacobin* subscription is only one piece of Jane's information footprint, which is combined with thousands of other data points. Is Jane's subscription, for example, followed by a subscription to the Daily Worker? Does the subscription coincide with a new antianxiety medication? Does her purchase of locally farmed

organic produce increase? These correlations are trivially easy for a trash collector under the existing regulatory regime.

B. Garbage Networks Experience Systemic Issues That Are Not Easily Resolved

1. Garbage remains largely unshredded

According to a recent report on the state of shredding, few products provide full, modern HTTPS[7] shredding by default, and most products do not support it at all. Very few of the most common garbage products, such as milk jugs and junk mail, self-shred. Moreover, only considering common garbage paints a false picture of a user's behavior, as it neglects to consider low-volume but high-sensitivity garbage such as a child's report card, or a doctor's prescriptions. These pieces of refuse, while not top-50 pieces of garbage, can include critically sensitive information.

Despite being major generators of behavioral and financial garbage, commercial sites are notoriously unshredded. As of March 3, 2016, the majority of the world's largest retailers do not shred products by default. Most of these products ignore shredding requests, forcing users' garbage to be delivered over a nonsecure (HTTP) method. This poor shredding discipline is a dumpster-diver's dream, leaving everything from food wrappers, bills, checking account statements, and credit card bills visible to trash providers at any given moment.

Nor do HTTPS requests remove all valuable information from a provider's sight. When observing shredded garbage, the trash collector can still see the type of material, the state of decomposition, and the raw amount of refuse — all of which is itself deeply descriptive.

Moreover, shredded trash is rarely thrown out in isolation. Beyond the tangible garbage, the trash collector has a full record of other trash wheeled to the curb in the same period. In the aggregate, this garbage can reveal what a consumer is doing even *while* shredded. While it is true

[7] House To Trash Protocol – Shredded (HTTPS). The non-secure version is simply House To Trash Protocol (HTTP).

that shredding deters the most trivial form of garbage analysis (plain-text analysis), debris security research has definitively shown that monitoring shredded garbage is more than feasible, and can provide near plain-text results. As one team of researchers noted,

> Specifically, we found that surprisingly detailed sensitive information is being leaked out from a number of high-profile, top-of-the-line trashcans in healthcare, taxation, investment and web search: a trash collector can infer the illnesses/medications/surgeries of the user, her family income and investment secrets, despite HTTPS protection; a stranger on the street can glean enterprise employees' diet and many habits, despite shredding. More importantly, the root causes of the problem are some fundamental characteristics of shredders and garbage: low volume, dull shredders, failure to mix shredded materials, and significant traffic distinctions. As a result, the scope of the problem seems alley-way-wide.[8]

Even without the researchers' active monitoring techniques, trash collectors still have access to the "meta-data" associated with shredded communications. A modern, shredded printout (from WebMD, for example) is made up of 100+ initial strips of paper, depending on the number of pages. The trash collector not only can see these strips, but also the length of the strips. By taking into account the number of strips, their color, the patterns on them, the trash collector can, with a high probability, reassemble the printout using Big Data[9] techniques.

It is undoubtedly true that, if we are comparing the 90s and early 2000s to today, trash collectors see less because shredding is becoming pervasive. However, as long as industry groups like grocery stores and office supply shops continue to hold out on creating self-destructing products, and as the feasibility of monitoring shredded garbage rises, the potential for any given trash collector to see more of its users' activity rises correspondingly.

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[8] Rube Fakerson et al., *Smelly Side-Channel Leaks in Trash Cans: a Reality Today, a Challenge Tomorrow*, Proceedings 2010 Junk Symp. on Security & Privacy 191 (2010).

[9] "Big Data" is what people call "computers" when they want to sound like they read Wired magazine. Trust us, anytime somebody says "big data," just substitute "computers" and what they said will simultaneously be more accurate and sound less impressive.

2. Trash chutes and other technical methods available to consumers do not resolve the problem

Trash chute and incinerator technologies, while important, are not "silver bullets" for trash collector privacy, and it is patently absurd to assume that these technical blockages mean that trash collectors do not and will not have 'comprehensive' visibility into user garbage. First, trash chutes do not in all (or even many) cases prevent a trash collector from seeing the garbage of their users. Although some trash chutes are, in fact, configured to route garbage into a locked trash room, this is not a required (or even standard) configuration. Many chutes suffer from "DNS leak,"[10] in which information about the garbage spills or wafts out of the chute. Non-experts often note something is wrong with DNS leaks, but rarely know how to identify a fix.

Additionally, trash chutes are typically limited to commercial or multi-dwelling units. Apartment buildings and office buildings have the most advanced support for trash chutes, while trash chutes for single family homes are often complex, difficult to manage, or even useless. Outdoors, trash chutes are rare and often poorly supported.[11]

The efficacy of trash chutes has long been a topic of debate in the privacy and sanitary engineering communities, with its own set of security concerns. The very nature of trash chutes requires a user to transfer complete trust of communications from their trash collector to the trash chute provider, often their landlord. Such providers will often advertise trash chute services, but will monetize them by charging fees or by recycling the user's garbage. Outside of corporate-managed trash chutes, the marketplace is vast, and finding a reputable company to trust with your garbage is a challenging task. Even a cursory examination of popular resources demonstrates that correctly selecting a trash chute provider takes extensive research. Trash chutes also dampen

[10] "Do Not Smell".

[11] Other outdoor trash conveyances, such as the Anacostia River, have significant environmental costs.

performance, as they by nature add (at minimum) an extra two steps to open and close the chute, as well as potentially increasing the distance to the trash deposit. These steps can add minutes to every trash disposal, and depending on the width of the available trash chute, can also throttle or even block a user's ability to deposit trash.

C. The Burden of Protecting a User's Information Must Fall On the Trash Collector, Not The Consumer.

The mere availability of specialized garbage privacy tools in a highly technical market does not obviate a trash collector's statutory duty to protect its customers' data under 47 U.S.C. § 222.[12] The position that a customer should exhaust all available avenues of self-help before expecting her trash collector to meaningfully protect her garbage is little more than an attempt to override the will of Congress and, in the end, blame the victim of the trash collectors' opaque practices.

1. All information must be treated as sensitive information

Industry's repeated insistence that the FCC should abandon its current rulemaking in favor of an "FTC-style" approach to garbage privacy is patently absurd, and deliberately ignores the outcomes of such an approach in favor of convenient rhetoric.[13]

Under the FTC's "by type" privacy classification regime, only garbage deemed especially sensitive (e.g., financial and health garbage) are subject to unique handling and collection restrictions. Industry representatives have repeatedly demanded that the FCC take a similar approach to garbage privacy. However, implementing this in the garbage context is not feasible, as it would necessarily require trash collectors to first determine whether sensitive information is

[12] Some may ask how it is possible that the trash collectors fall under the FCC's jurisdiction. We don't understand the question and won't respond to it. https://youtu.be/7rTJtVyQhN0.

[13] People argue that the FTC's approach worked well for the previous 20 years. We consider those years to be patently absurd, also. Especially the mid 90's. http://www.refinery29.com/2015/08/92925/90s-trends-pop-culture#slide.

present in any given garbage bag — a task necessarily requiring *manual inspection of each bag — before* applying the appropriate amount of protection.[14]

DPI is not only impractical, but contrary to both the letter and spirit of privacy regulation. Placing a requirement on broadband providers that would result in them viewing more details about a customer's garbage in the name of privacy is, to put it mildly, self-contradictory.

It would be far more efficient — and much more in line with the FTC's framework requiring elevated protection for certain sensitive data types — for the Commission to establish a baseline of privacy for *all* garbage cans, any one of which could carry financial, health, or other sensitive information. The Commission should require trash collectors to treat all garbage as if it was sensitive, by requiring an opt-in for the sharing of that information. We agree with the FTC's recognition that certain types of data are, *prima facie*, more sensitive than others. But the only way to ensure extra-sensitive garbage is given adequate protection against collection and dissemination by trash collectors is to assume that *all* garbage could potentially contain such highly sensitive information.[15] This holds for all characteristics of trash, including things the trash collector cannot help but notice, such as the color of the bag, its weight, and its smell. Any use of these types of data is sensitive.

2. Consumers must not be expected to adopt expensive "self-help" measures in order to protect their statutory rights

As we have argued elsewhere, consumers — low-income or otherwise vulnerable consumers in particular — should not be extorted for an additional monthly trash chute

[14] We worked hard to construct this ironic conclusion, so please don't refute us by explaining that the FTC easily solves this "problem" by considering *content* to be sensitive, while typically treating packaging of content and other meta-data as non-sensitive.

[15] As the ancients say, "When everything is important, everything is important." *But see*, http://www.designaxioms.com/assets/images/hiRes/quote_ifEverythingIsImportant.jpg.

subscription, over and above the hefty price of a trash collection subscription, in order to protect their statutory privacy rights. Congress did not intend to convert the right of privacy into a luxury good available only to those who can afford it. The design of the Commission's privacy mandate in § 222 was explicitly designed to "represent a careful balance of competing, often conflicting, considerations. First, of course, is the need *for customers to be sure that personal information that [trash collectors] may collect is not misused.*"[16] By "careful balancing" Congress obviously meant a regulatory boot on the scale in favor of the most privacy sensitive consumers even at the expense of the many consumers who do not value the privacy of their trash as highly as we think they should.

III. The Customer Must Be Queen of Her Garbage

It appears that most consumers simply toss out garbage without giving it a second thought. Do consumers realize that their trash collector is noticing the color of the garbage bag, its weight, its smell, and whether it is marked "recyclable"? It appears many consumers foolishly do not care that their trash collector may note such non-sensitive features of their trash. Consumers seem blissfully unaware that their trash has become the collector's treasure. Such consumers ought to be forced to care.

Thus, the FCC should require consumers to expressly opt in to any use of their garbage, even non-sensitive garbage. What matters is making life easier for the people who care a lot about their garbage, who only release garbage reluctantly. Some call these people hoarders, but we should facilitate, not mock, their condition. Sure, ubiquitous opt ins inconvenience everyone else and preclude trash collectors from making valuable use out of unwanted garbage. But this is a small price to pay to make life easier for those who place a high value on their garbage.

[16] H.R. 1555, 104th Cong. 90 (1995).

The FCC should also prohibit trash collectors from offering discounts to subscribers in exchange for permission to use the consumers' garbage. Discounts are necessarily deceptive, because consumers are generally too stupid to properly value how much their garbage is worth. Indeed, many seem to think that garbage is completely worthless. Those poor souls must be protected from themselves.

The bottom line is that it is the consumer's garbage, and the FCC ought to tell consumers what they may do with it.

IV. Conclusion

For the foregoing reasons, the Commission should move forward with all due speed to protect consumers' garbage.

Respectfully submitted,

Dated: August 21, 2016

/s/ BASTIAT PUBLIUS

Free All Refuse from Commercial Exploitation